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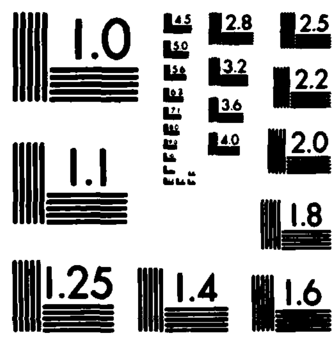
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Naval Research Laboratory

Washington, DC 20375-5000 NRL Report 8972 July 16, 1986

Tethered Balloon Measurements at San Nicolas Island (Oct. 1984): Instrumentation, Data Summary, Preliminary Data Interpretation

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Atmospheric Physics Branch
Space Science Division

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A 12-day field experiment was held on San Nicolas Island (SNI) in October 1984 to test the operation of a tethered balloon system and to get an indication of the vertical profiles of some of the meteorological parameters. The instrumentation consisting of the balloon system, nephelometer, and psychrometer are described in detail. The collected data are presented in tables and plots. Preliminary interpretation of the data is given; this includes the vertical dependence of the aerosol scattering coefficient, wind jets found at the inversion, and entrainment into stratocumulus clouds. Conclusions are given on the performance of the tethered balloon, the suitability of SNI for future vertical structure experiments, and the value of balloon measurements in such experiments.

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CONTENTS

TETHERED BALLOON MEASUREMENTS AT SAN NICOLAS ISLAND (OCT. 1984): INSTRUMENTATION, DATA SUMMARY, PRELIMINARY DATA INTERPRETATION

1. INTRODUCTION

From October 18 to 29, 1984 a tethered balloon (see Fig. 1) was used to obtain 48 vertical profiles of the maritime boundary layer over Vizcaino Point on San Nicolas Island. San Nicolas Island is about 120 km southwest of Los Angeles. Vizcaino Point is a peninsula on the northwest end of the island and faces into the prevailing northwesterly wind direction. This location has been the site of several Navy research field programs, because of its persistent maritime climate. The tethered balloon, developed in part with ONR support by LTA International, Inc. (3300 N. Riverside Dr., Indiatlantic, FL 32903), is a 170 m^3 (6000 ft^3) "aerostat" system that derives its lift from its helium bladder and airfoil shape. Its lifting capacity is approximately 50 kg. The mooring and winch system of the balloon were designed to permit large flexibility in choosing ascent and descent rates of the balloon.

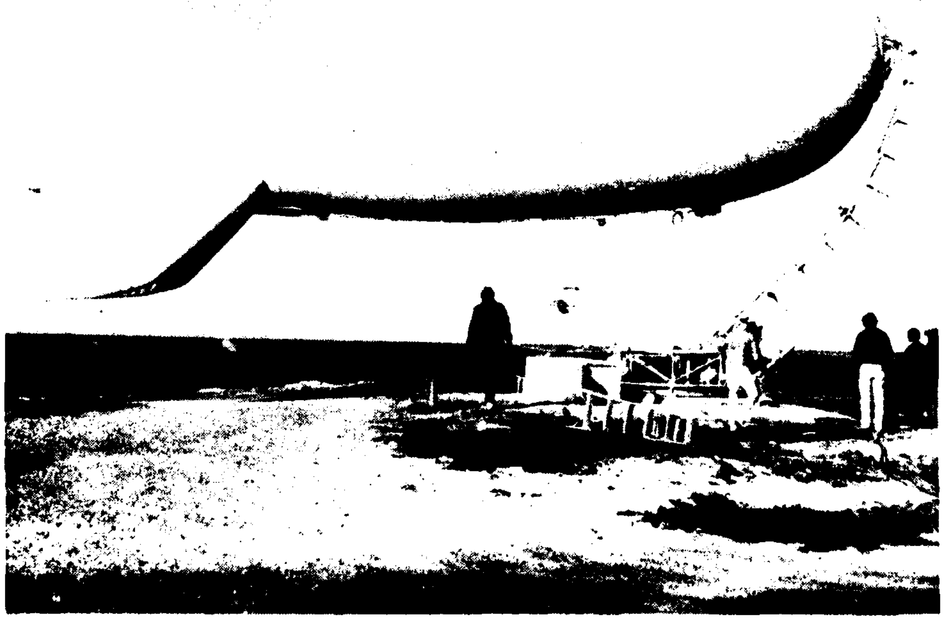

Fig. 1—LTA International tethered balloon on station at San Nicolas Island R-1290

Manuscript approved February 14, 1986.

The purpose of deploying the aerostat at San Nicolas was to test the capabilities of the system in a maritime environment. We desired to discover the suitability and reliability of this aerostat system in making an uninterrupted time series of flights. A further purpose was to measure the vertical dependence of some meteorological and optical parameters in order to gain insights on the behavior of the boundary layer in the vicinity of San Nicolas Island. In view of future plans to comprehensively study the maritime boundary layer in the vicinity of San Nicolas Island, this test was designed as a pilot study. Because of the time constraints previous to this field trip, the balloon was only partially instrumented so that the vertical profile measurements were limited to those obtained with an altimeter, an anemometer, and a precision psychrometer and nephelometer built specifically for this test.

This report consists of three main parts: The instrumentation is described in detail, all collected data are presented in graphs and tables, and a preliminary interpretation of the data is given. To demonstrate the reliability of the instrumentation and data system, the data are presented as collected without filtering of the obvious errors. Conclusions are given on the capabilities of the aerostat system, and recommendations are made as to the suitability of San Nicolas Island for future field studies.

2. INSTRUMENTATION

2.1 Data System

The aerostat instrumentation data system (developed by LTA International) consists of a self-contained lightweight package that includes analog-to-digital conversion and a telemetry transmitter that uses pulse code modulation in transmitting the data to a ground-based receiver. The receiver is interfaced with a Superbrain computer that makes the data available at 9600 baud and 8 bit accuracy. For this experiment a scan over all 22 data channels was made every 6 s; a faster rate is possible. For the purpose of data analysis it was found convenient to route the output of six of the channels (time, altitude, wet-bulb temperature, dry-bulb temperature, wind speed, and scattering coefficient) via RS-232 to an HP-85 computer and store it on flexible discs. The remaining channels were used for "state of health" information that was important for operating the balloon.

2.2 Altimeter

The output of the precision pressure transducer (model No. 7000, manufactured by Computer Instruments Corp., New York, NY) was converted by the Superbrain computer to an output equivalent to the fraction f of the range of the altimeter in feet. The range of the altimeter output is -1500 to 10,000 ft. The relationship between the height h of the balloon above the surface and f is given by

$$h\ (\mathrm{ft}) = h_o + 11500\,(f - f_o)\,C, \tag{1}$$

where $h_o = 50$ ft is the elevation above mean sea level of the balloon site, f_o is the value of f at the surface at the balloon site, and C is an instrumentation constant of the altimeter. The value of $C = 1.131$ was determined from one of the aerostat flights when the wind speed was negligible at all heights. This caused the balloon to rise directly above the mooring platform so that the length of the tether let out from the take-up reel could be compared to the output f_o of the altimeter. Figure 2 shows the correlation between the altimeter reading and the height of the balloon above sea level as given by the tether length. The linearity between the two parameters is excellent, and it appears that the height of the balloon can be determined to within several feet.

For each flight the value of f_o was adjusted according to the value of the surface barometric pressure.

The values of h were converted back to atmospheric pressure P, which was needed for the interpretation of the psychrometer output. The values of P were obtained by integrating the hydrostatic equation:

$$\int_{P_o}^{P} \frac{dP}{P} = - \int_{h_o}^{h} \frac{Mg}{RT}\, dh, \tag{2}$$

where P_o is the surface pressure, g is the gravitational constant, T is the absolute temperature, M is the molecular weight of air, and R is the universal gas constant. For dry air Eq. (2) reduces to

$$P\ (\text{mb}) = P_o \exp\left(-1.041 \times 10^{-2} \sum \frac{\Delta h}{T}\right), \tag{3}$$

which was used in the present analysis.

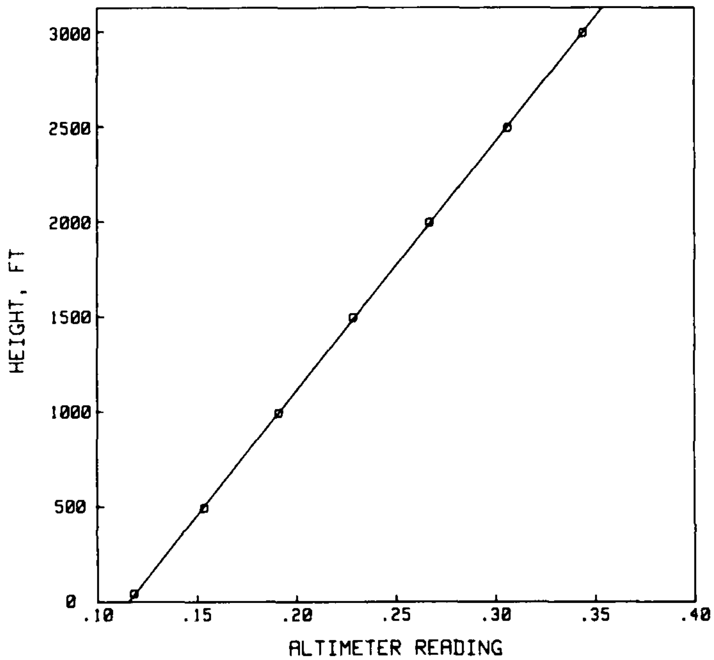

Fig. 2—Altimeter calibration

2.3 Anemometer

The anemometer was a miniature multicup device that gave an output in the form of pulses proportional to the wind speed u. This unit was calibrated by running it side by side with a portable cup anemometer (model No. 55, manufactured by R.A. Simerl Instrument Division, Annapolis, MD) that read out in mph. Figure 3 gives the calibration data for the aerostat anemometer. Approximation formulas fit to these data are given by

$$u\ (\text{mph}) = 32.7 - [961 - (\text{Pulse Rate})^2]^{1/2} \tag{4}$$

for a pulse rate greater than 0 and less than 20, and by

$$u\ (\text{mph}) = 0.8\ (\text{Pulse Rate}) - 7.2 \tag{5}$$

for a pulse rate greater than 20.

The anemometer was mounted underneath one of the lower aerostat fins that are attached in the form of an inverted Y toward the rear end of the body of the balloon. The 2 m separation of the anemometer from the main body of the balloon (about 4 m in diameter at the widest point of the

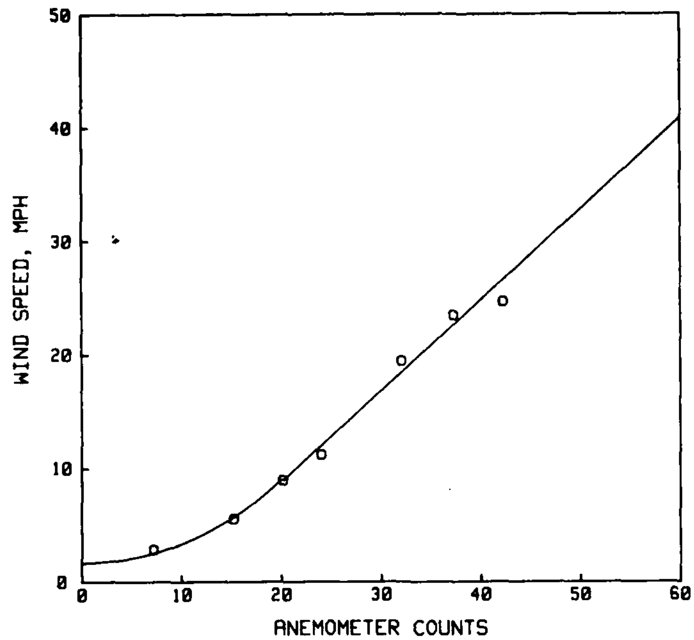

Fig. 3—Anemometer calibration

cigar-shaped body) was not sufficient to avoid some influence of the balloon on the wind speed measurements.

The capability to record wind direction was not available except at the surface. Above the surface the wind direction was estimated by noting the orientation of the aerostat, which faces into the wind during flight.

2.4 Psychrometer

2.4.1 Instrumentation

A new psychrometer was designed and constructed to achieve improved accuracy over the performance of commercial units and to obtain the portability necessary for its use on the aerostat. Figure 4 shows the psychrometer as part of the larger nephelometer package. The concentric tubes of the psychrometer's heat shield are 20 cm long, and the electronics are located in the narrow box directly below the heat shield. The dry and wet bulb thermometers are located midway along the inner heat-shield tube, and the small white plastic bottle attached to the side of the heat shield is the water reservoir for the wet bulb thermometer. Figure 5 is a head-on sketch of the heat shield and temperature sensors. The sensors consist of thermistors (YSI Thermolinear Component 44202, absolute accuracy and interchangeability of $\pm 0.15°C$) imbedded in matched 1-mm thick aluminum heat sinks with the dimensions shown in Fig. 5; and the heat sinks are mounted on thin wooden supports coated with epoxy for waterproofing. The $1/e$ time constant of the thermistors in still air is 10 s; by mounting the thermistors in the heat sinks the surface to volume ratio increases, which, in combination with an aspiration rate of 1 m/s through the inner tube, improves the time constant to about 3 s. One of the thermistor heat-sink assemblies is covered entirely with thin cotton thread, and a cotton wick extends into a plastic tube attached to the water reservoir. The heat-shield tubes are thin aluminum for fast thermal response, and they are plated to be highly reflecting except for the inner surface of the inside tube, which is coated with flat black paint to prevent reflections from heating the thermistors. No means is provided to aspirate air through the tubes with a fan. Self-ventilation occurs, because the psychrometer is mounted on the aerostat in a position where the heat-shield tubes are parallel to the wind direction.

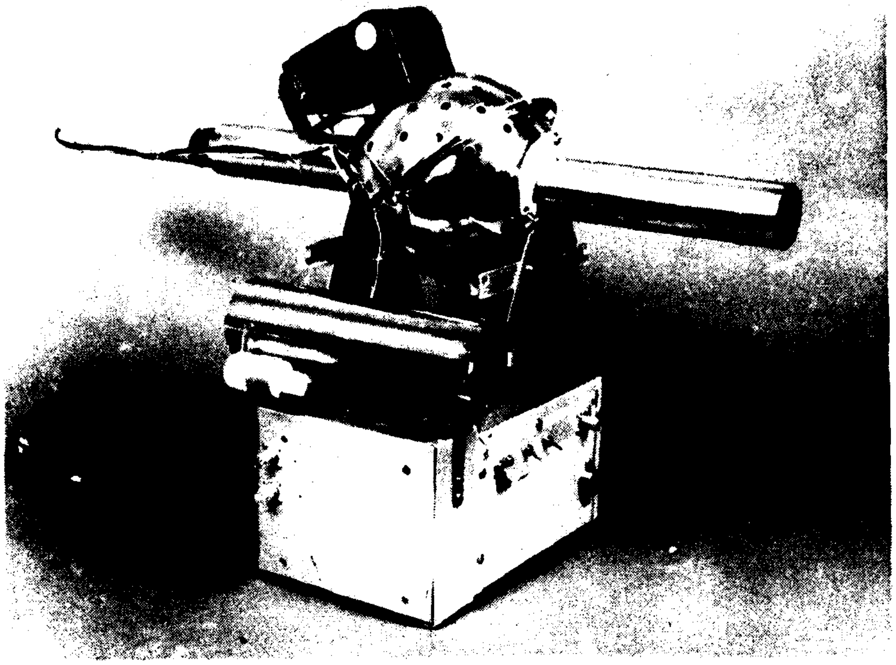

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Fig. 4—Nephelometer and psychrometer balloon instrument package

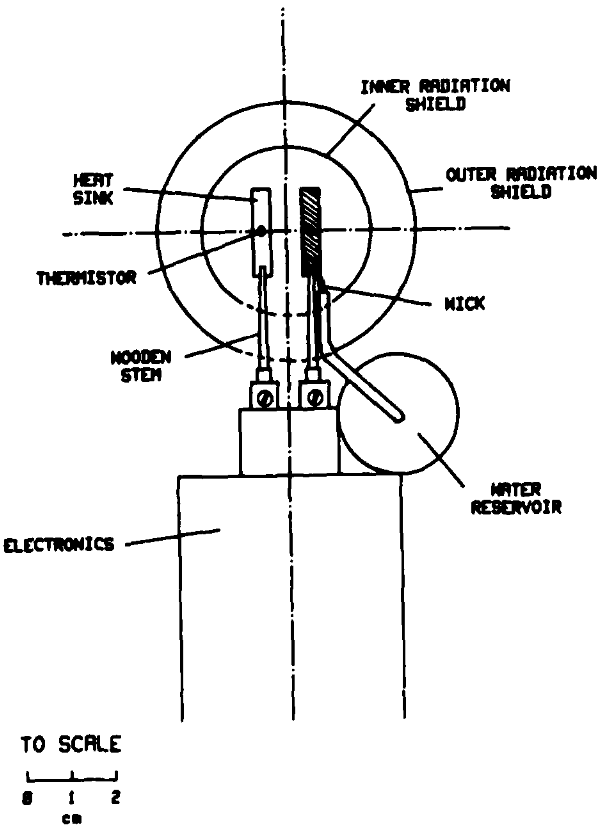

Fig. 5—Head-on view of the psychrometer radiation shields with locations shown of the dry and wet bulb thermistors, their heat sinks, and the wet bulb water reservoir

The electronics consist of a bridge circuit that has a thermistor in each leg, an instrumentation amplifier that gives an output proportional to the difference of the thermistors, and an amplifier that conditions and outputs the dry thermistor temperature. The voltage output for the dry-thermistor (T_d) and wet-thermistor (T_w) temperature difference is 50 mV/0.1°C; and the output of the dry thermistor is 100 mV/°C. The circuitry requires ±9 V and uses 10 mA.

2.4.2 Calibration

The calibration consisted of matching the response of the two thermistors to improve the difference between their outputs, which depends on their rated accuracy of ±0.15°C. The thermistor-heat-sink assemblies were immersed in water in a cavity in a large metal heat sink. This sink was placed in a chamber in which the temperature was changed in a stepwise fashion. The difference D(mV) in the output of the dry and wet sensors is shown in Fig. 6 as a function of T_d. A curve fitted to the data points in Fig. 6 gives

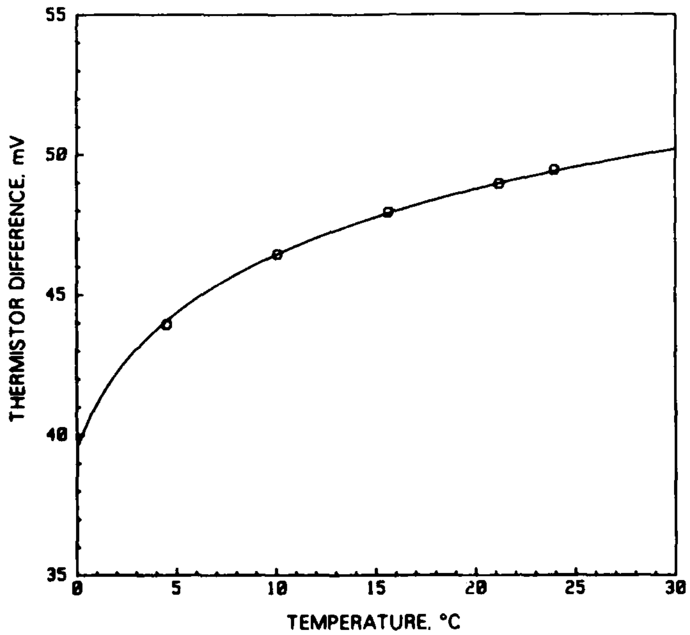

Fig. 6—Difference in the output of the two thermistors in the psychrometer as a function of their temperature

$$D\ (\text{mV}) = 3.85 \ln(T_d + 2) + 36.85, \tag{6}$$

which results in a relationship between T_d and T_w given by

$$T_w = T_d - \frac{0.1°\text{C}}{0.05\ \text{V}}\ \text{VAL}\ (\Delta T) + \frac{0.1°\text{C}}{50\ \text{mV}}\ D, \tag{7}$$

where VAL (ΔT) is the output in volts of the channel that gives the difference between dry- and wet-bulb temperatures.

The use of Eq. (7) permits a matching of the thermistor outputs to better than 1 mV, which corresponds to resolving the temperature difference between the thermistors to 0.002°C. This in turn translates to a best measurement accuracy for the relative humidity (RH) of about 0.02%. The actual accuracy is undoubtedly less because in use the temperature difference between the thermistors is determined by other factors, including ventilation and thermal and moisture fluxes. No comprehensive

comparison has yet been made between this new psychrometer and other methods of measuring RH; although, a comparison of this psychrometer (self-aspiration rate was 5 mph) with a sling psychrometer gave good agreement.

2.4.3 Data Reduction

The T_d (°C) and T_w (°C) outputs of the psychrometer were used to calculate RH (%), the mixing ratio W (g/kg), the potential temperature T_p (K), the virtual potential temperature T_{vp} (K), and the equivalent potential temperature T_e (K). The usual expressions were used for the calculations; for the sake of completeness they are given here.

The relative humidity is given by

$$\text{RH (\%)} = 100\, e/e_o\ . \tag{8}$$

The Goff-Gratch [1] formulation relates the saturation vapor pressure e_o to the absolute temperature T ($T = T_d + 273$ K), the steam point temperature T_s (373.17 K), and the saturation vapor pressure e_{os} at T_s (1013.246 mb):

$$\begin{aligned}\log e_o = &- 7.90298(T_s/T - 1) + 5.02808 \log (T_s/T) \\ &- 1.3816 \times 10^{-7}\, [10^{11.334\,(1-T/T_s)} - 1] \\ &+ 8.1328 \times 10^{-3}\, [10^{-3.49149\,(T_s/T-1)} - 1] + \log e_{os}.\end{aligned} \tag{9}$$

The ambient vapor pressure e is given by (Smithsonian Meteorological Tables, 1975)

$$e = e_w - [0.00066\ (1 + 0.00115 T_w)]\ (T_d - T_w) P, \tag{10}$$

where the saturation vapor pressure e_w at T_w is found by again applying the Goff-Gratch formula in terms of T_w.

The remaining parameters are given by

$$W(\text{g vapor/kg dry air}) = \frac{1000\ Mve}{M_d(P - e)}, \tag{11}$$

$$T_p(\text{K}) = \theta = T\ \left[\frac{P}{1000}\right]^{-.286}, \tag{12}$$

$$T_{vp}(\text{K}) = \theta_v = T_p \left[\frac{1 + 1.609\, W/1000}{1 + W/1000}\right], \tag{13}$$

$$T_e(\text{K}) = \theta_e \approx T_p + \frac{L}{c_p}\ W, \tag{14}$$

where M_v and M_d are the molecular weights of the vapor and dry air respectively, c_p is the specific heat capacity at constant pressure, and L is the latent heat of evaporation.

2.5 Nephelometer

The nephelometer measures the photopic aerosol scattering coefficient b_s and thus gives a measure of the visual range. It consists essentially of an integrating sphere illuminated inside, and a photomultiplier field of view that passes through the sphere and into a light trap on the other side (see Figs. 4 and 7). The light scattered into the sensor by the aerosols located in the field of view should be directly proportional to b_s. This configuration is similar to one of the nephelometer types originally proposed by Beuttell and Brewer [2]. They suggested that aerosols illuminated by a constant omnidirectional light flux in a cavity would yield b_s. This feature can be easily demonstrated analytically for the integrating sphere of this nephelometer (see Fig. 7).

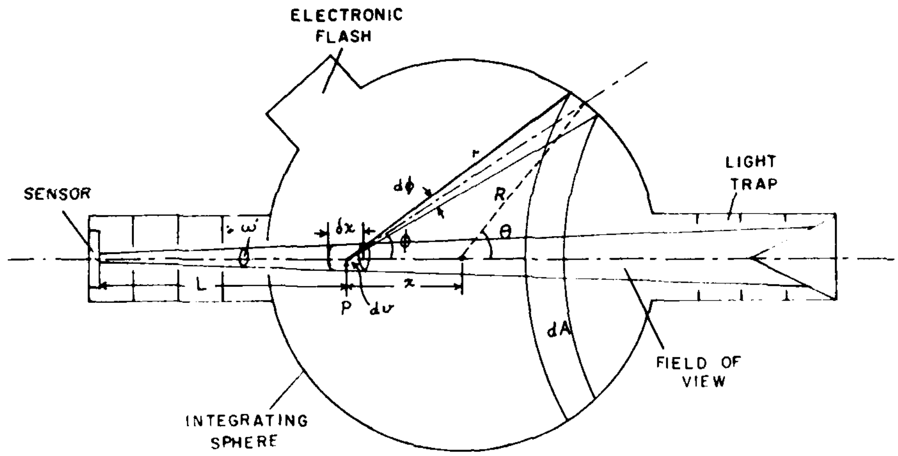

Fig. 7—Schematic of the integrating sphere nephelometer

The illuminance dE produced at P (an arbitrary point in the sphere along the optical axis of the sensor's field of view) on an elemental surface normal to the direction LP by the luminance of an elemental area dA of the inner wall of the sphere is given by

$$dE = B_0 d\omega \ , \tag{15}$$

where B_0, the luminance of the inner wall, is the same in all directions because the surface is considered to be a perfect diffuse reflector; and $d\omega$ is the solid angle subtended by dA at P.

Given that

$$d\omega = dA/r^2 \tag{16}$$

and

$$dA = 2\pi Rr \sin\theta \ d\phi \ , \tag{17}$$

$$dE = \frac{2\pi RB_0 \sin\theta d\phi}{r} \ . \tag{18}$$

The luminous intensity dI of the aerosol volume dv in the direction of the sensor is

$$dI = dE \ \beta'(\phi) dv, \tag{19}$$

where $\beta'(\phi)$ is the volume scattering phase function for polydispersed aerosol particles, and

$$dv = \omega' L^2 \delta x \ . \tag{20}$$

The luminance $dB(\delta x)$ of dv is found by noting that $R \sin \theta / r = \sin(\phi)$, and by dividing Eq. (19) by the area $\omega' \ L^2$ of dv facing the sensor:

$$dB(\delta x) = 2\pi B_0 \beta'(\phi) \sin\phi d\phi \delta x. \tag{21}$$

Applying the definition for the volume scattering coefficient

$$b_s = 2\pi \int_0^\pi \beta'(\phi) \sin(\phi) d(\phi) \tag{22}$$

to Eq. (21) gives

$$B(\delta x) = B_0 b_s \delta x \ . \tag{23}$$

Since Eq. (23) is independent of the location of x within the sphere, it can be integrated over the $2R$ range of x to yield

$$b_s = B/2RB_o. \tag{24}$$

which shows the desired direct proportionality between b_s and the total luminance B of the aerosols in the photomultiplier field of view.

The integrating-sphere nephelometer as shown in Fig. 4 has the following general features: The light trap is contained within the tube on the right-hand side of the figure, and this tube also permits aerosol to aspirate directly into the sphere. Holes covering about 5% of the surface area of the sphere also permit exchange of air, and a fan attached to the bottom of the sphere assures that air is drawn through the sphere even under conditions of low wind speed. The light source consists of a standard camera xenon flash unit that illuminates the diffusively and highly reflecting inner surface of the sphere. The nephelometer is self powered with batteries, and it is calibrated by immersing it in Freon 12 which has a known photopic molecular scattering coefficient of 0.177 1/km. The expression that relates b_s of the nephelometer to the calibration signal (0.148 V) and to the background signal (0.107 V) from unavoidable internal reflections is given by

$$b_s(1/\text{km}) = (V_{out} - 0.107\ \text{V})\frac{0.177\ \text{km}^{-1}}{0.148\ \text{V}} . \tag{25}$$

Specific characteristics of the integrating sphere nephelometer are listed in Table 1.

Table 1 — Nephelometer Characteristics

Output Range:	0.330 to 90 km visibility
Accuracy:	±5% (exclusive of truncation error)
Wavelength:	0.5575 μm (0.055 μm bandwidth)
Output Refresh Rate:	0.1 s^{-1}
Angular Scattering Range:	5° to 173° (mean) 2.5° to 176.5° (extreme)
Scattering Volume:	≈1 cm^3
Output Voltage Range:	0 to 10 V (5-mV resolution)
Freon-12 Calibration:	0.148 V
Background Output:	0.107 V
Weight:	6.75 lb
Power:	11 lithium D cells (2.8 V, 8 AH each)
Battery Life:	Electronics—40 h (8) Fan—16 h (1) Flash—20 h (2)
Electronic Flash Life:	≈ 10^6 flashes (≈1600 h)

3. DATA SUMMARY

3.1 Atmospheric Conditions

Figure 8 gives a time series of some of the atmospheric conditions that existed at San Nicolas Island during the measurement period. The boundary layer height (BLH) was estimated from the temperature and moisture profiles as the height of the atmosphere above which mixing appeared negligible. Also shown are surface wind velocities, periods of stratus clouds and ocean whitecapping, and the major meteorological changes.

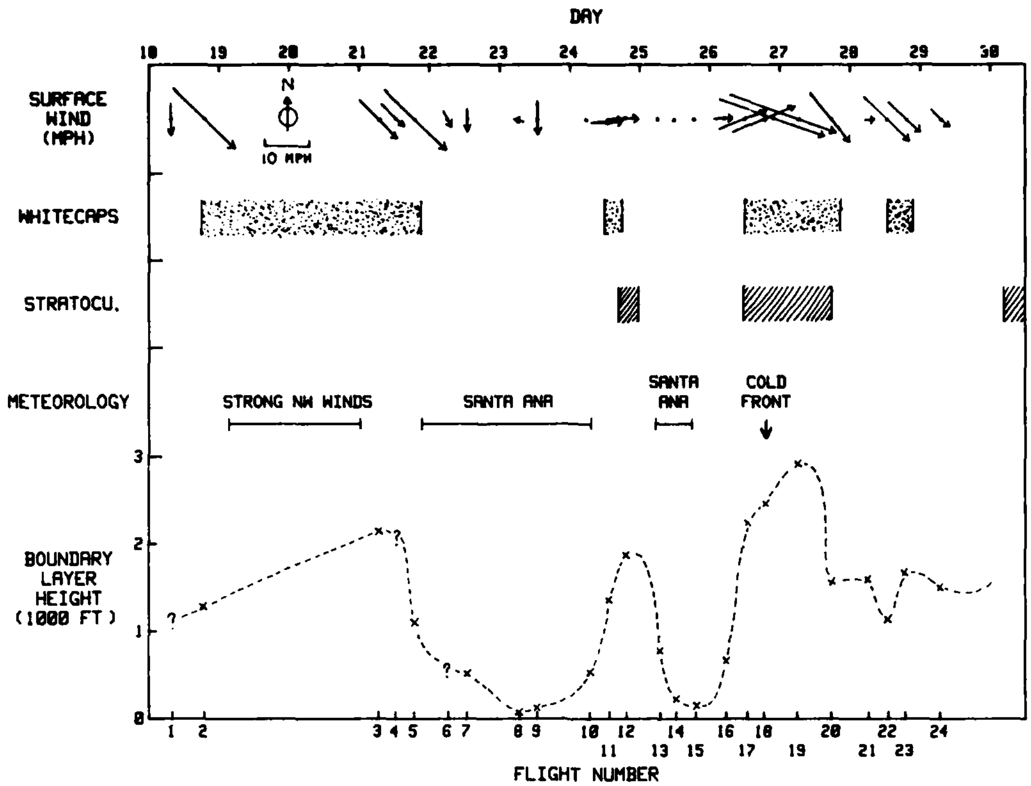

Fig. 8—Summary of the meteorological conditions at SNI during the field trip

The early measurement period was characterized by strong northwesterly winds caused by the pressure gradient between a strong cyclone moving onshore and through the state of Washington, and a high-pressure region northwesterly of San Nicolas. Surface winds at the San Nicolas measurement site on occasion exceeded 40 mph on October 19 to 21, which prevented use of the aerostat. This period was followed by 4 days on which a high-pressure area over the northwestern states dominated the weather at San Nicolas, causing typical Santa Ana conditions with winds from the continent. On October 25 this pattern was temporarily broken with westerly winds and a period with stratus. On October 26 the Santa Ana conditions ended with the approach of a weak cold front that passed by San Nicolas at about 2030 local time; the aerostat was aloft at the time.

Figure 8 shows that the height of the mixed layer was strongly variable over the measurement period. A maximum growth rate of about 1.7 cm/s (200 ft/h) was observed in the height of this layer on October 26.

3.2 Tables and Plots

The data collected with the aerostat on 24 flights (48 profiles) made at San Nicolas from October 18 to 29 are summarized in the tables and figures given in the appendix of this report. Each profile is described by a table that includes the altitude in 50-ft increments, local time, dry-bulb temperature, wet-bulb temperature, relative humidity, mixing ratio, potential temperature, wind speed, volume scattering coefficient, and optical depth integrated from the scattering coefficient; and plots of the vertical dependence of wind speed, wet and dry bulb temperatures, virtual potential temperature T_{vp}, relative humidity, and the scattering coefficient. The additional curves shown with the scattering coefficient plots give the scattering coefficient normalized to 80% RH (dotted curve) and the coefficient corrected for the forward-scatter truncation error (dashed curve); see a full description in Section 5.

On flight 1A the aerostat was kept at each 50-ft level for 1 min and was raised at the rate of 100 ft/min between levels; on the descent portion (flight 1B) the aerostat was kept at each 100-ft level for 1 min; on all other flights the raising and lowering rates were kept at a constant rate of about 100 ft/min. The scan rate over the data channels was 1 per 6 s, which resulted in data with a vertical resolution of about 10 ft. The data shown in the figures is a five-point running mean of all the collected data; and the data in the tables are five-point means linearly interpolated to coincide with the 50-ft increments in the height of the aerostat. On occasion the aerostat crossed the same level more than once on individual flights because of vertical atmospheric motions and slower rising rates near its maximum altitude; the data in the tables correspond to the first time the aerostat crossed each level.

3.3 Field Notes

During each flight notes were kept on the meteorology and the performance of the aerostat and instrumentation. They are given here in condensed form.

Flight 1—Weather conditions: sfc. wind N 5 to 10 mph; clear; visibility 50+ miles (can see mainland); no whitecaps. Given a constant length of tether, the aerostat slightly changes its elevation.

Flight 2—Surface wind NW about 20 mph; mostly clear (cirrus); moderate whitecaps on ocean for last several hours.

Flight 3—Surface wind NW about 10 to 15 mph; above 1000 ft wind nearly calm from E and variable; clear; light whitecapping. First measurements after high winds (surface 20 to 40 mph) of yesterday; winds died down last night. Haze (sea salt?) heavy yesterday, lighter today with some layers above island as indicated by scattered light from low sun.

Flight 4—Surface wind NW about 5 mph; clear; no visible haze; no whitecaps.

Flight 5—Surface wind NW about 20 mph, more westerly higher up; clear; moderate whitecapping; sharp top of haze layer visible on drive down hill at about 800 to 900 ft.

Flight 6—Surface wind NNW less than 5 mph, low and variable aloft, wind easterly on descent; clear; haze layer visible at about 1000 ft; no whitecaps. Aerostat rising very slowly, because of dew load, impure helium, cold gas, and/or lack of aerodynamic lift.

Flight 7—Surface wind N about 5 mph, low winds to calm aloft; clear; no whitecaps. Aerostat directly above mooring rig permits pressure-height calibration of altimeter.

Flight 8—Calm at surface, ESE aloft; clear; very good visibility (can see mainland); no whitecaps. Typical Santa Ana conditions.

Flight 9—Surface wind N 5 to 10 mph, E aloft; clear; no whitecaps; well-defined thin haze layer near the sea surface. Apparently wet bulb wick dried out due to nose-up attitude of aerostat on the ascent, wick was lengthened after this flight and no further drying was apparent.

Flight 10—Near calm at surface, NW winds aloft; clear; very good visibility; no whitecapping.

Flight 11—Surface wind W 5 to 10 mph, W aloft; clear; no visible haze; light whitecapping in second half of flight.

Flight 12—Wind W, 5 to 10 mph at surface; broken stratus first observed in vicinity 2 h before flight, during flight stratus cover greater than 5/10, and 10/10 over high part of island; no whitecaps.

Flight 13—Near calm at surface, NE wind aloft; clear; no whitecaps; appears that Santa Ana conditions are back.

Flight 14—Near calm at surface, ENE wind aloft; clear; no whitecaps; excellent visibility; Santa Ana conditions.

Flight 15—Above surface wind W, higher up more NW; clear; no whitecaps.

Flight 16—Wind W all levels, less than 5 mph at surface; clear; no whitecaps; very good visibility.

Flight 17—Surface wind 10 to 15 mph, WSW all levels; nearly solid stratus deck on ascent, coverage of about 8/10 on descent; light whitecapping; this was prefrontal situation.

Flight 18—Surface wind WSW 15 mph at beginning of flight, WNW at 25 mph at end of flight; stratus with coverage of about 9/10 on ascent, solid overcast on descent with cloud probably consisting entirely of larger droplets (drizzle) as indicated by the uniformly hazy appearance of the aerostat throughout the descent, drizzle was observed at island's airport (elev. 600 ft). Frontal passage apparently occurred near the apex of this flight. Moderate whitecapping at end of flight. Psychrometer failed on descent due to shorting of lead caused by corrosion.

Flight 19—Surface wind 18 mph, WNW all levels; decreasing coverage of broken stratus, about 1/10 coverage; moderate whitecapping; postfrontal situation.

Flight 20—Surface wind 10 to 20 mph, NW all levels; widely scattered stratus with coverage less than 1/10; moderate whitecapping but less than during last flight.

Flight 21—Winds low to calm mostly from W; clear except some broken stratus over high part of island; no whitecaps.

Flight 22—Surface wind about 15 mph, NW all levels; clear; some haze visible from top of hill; light whitecapping.

Flight 23—Same as flight 22, except surface wind reduced to about 10 mph.

Flight 24—Surface wind less than 5 mph, NW all levels; partly cloudy (cirrus); no whitecapping; some haze visible from top of hill.

3.4 Data Quality

The data system operated nearly flawlessly, with only a few instances where erroneous or missing data occurred; flights 2A, 2B, and 12B show such errors. In places where obvious errors occurred, an estimate of the actual data values is given by the dashed curves in the plots of temperature and RH.

The nephelometer operated well on all the flights; however, much of the data are within instrumentation noise because of the persistently excellent visibility of the atmosphere during the measurement period. The unavoidable truncation error in the measured scattering coefficient is discussed in the next section.

The psychrometer gave erroneous data under several conditions. Under low wind speed conditions and especially for early morning flights the aerostat rose with a nose-up attitude that caused the psychrometer wick to lose contact with the water reservoir. This caused drying of the wick and erroneous wet bulb temperatures. The temperature record of flight 9A is a good example of this problem; it also appeared to have an influence on flights 1A, 7A, and 7B. Following flight 9 the wick was lengthened, and the problem did not recur. The second condition for erroneous data resulted from the sporadic failure of the conditioning electronics for the dry bulb thermometer. This affected the temperature data on flights 13B, 14B, and 15A; and to a lesser extent the values of RH on those flights. The third condition for erroneous data existed whenever the psychrometer became wetted with cloud droplets that caused it to give readings above 100% RH; see flights 12A, 17A, 17B, 18A, and 18B. This was not caused by a mismatch between the dry and wet bulb thermistors but may be due to the greater cooling of the dry thermistor than the wet thermistor by the impacted droplets. This assumes that the droplets are generally cooler than the environment (evaporation), and that the heat content of the wick water on the wet thermistor causes slower cooling. The wetting error was more noticeable on descents than on ascents, because the moister air in the mixed layer prevented the wetted dry bulb thermistor from drying rapidly. The final condition for erroneous data occurred on flights 18A and 18B when a lead of the dry thermistor shorted.

Even though the thermal masses of the wet and dry bulb thermistors are close to identical (e.g., see flight 9A where the wick on the wet bulb thermistor inadvertently dried out and gave the same temperature reading as the dry bulb thermistor), their cooling rates as the balloon ascends or descends can deviate because the dry bulb changes temperature according to the atmospheric lapse rate while the wet bulb changes temperature according to the wet bulb lapse rate. For example, for an adiabatic atmosphere the change in T for the dry bulb is 3°C/1000 ft, while for the wet bulb the change is 2°C/1000 ft. This difference can yield erroneous values of RH when the balloon changes altitude too quickly so that the thermistors cannot come to equilibrium with the ambient temperatures. This error can be estimated by integrating Newton's law

$$\frac{dT}{dt} = k\,[\,(T_0 - at) - T\,] \tag{26}$$

for the thermistors for an adiabatic atmosphere, where T is the ambient temperature, T_o is the initial temperature, t is time, a is the adiabatic lapse rate times the ascent or descent rate, and k (0.33/s) is the thermal time constant of the thermistors determined from the estimated 3-s 1/e thermal folding time. The integration of Eq. (26) gives

$$T = T_o - at + \frac{a}{k}\,(1 - e^{-kx})\,, \tag{27}$$

which is used to determine that a balloon rise rate of 100 ft/min through an adiabatic atmosphere causes a maximum error in RH of about 0.05%; Eq. (27) can also be used to estimate errors for other portions of the profiles when lapse rates differed from adiabatic.

4. PRELIMINARY DATA INTERPRETATION

It is beyond the scope of this report to attempt an explanation of the many interesting features found in the profiles of the 24 flights. Only a cursory look is taken at several features such as the vertical dependence of the scattering coefficient, the wind jet centered on the inversion, and the cloud-topped boundary layer.

4.1 Vertical Dependence of the Aerosol Scattering Coefficient

Because the aerosol particles probably consist in part of sea salt and are thus hygroscopic, it is expected that their size and scattering coefficient b_s depend on the ambient RH. To get an indication of the vertical distribution of the concentration of the aerosol particles, b_s, given in the vertical profiles of the appendix of this report, is normalized to a value b_o corresponding to a reference RH of 80%. The normalization is done by using the approximation formula [3]

$$\frac{r}{r_o} = \left[\frac{1.83 - S}{5.13(1 - S)}\right]^{1/3} \tag{28}$$

for the equilibrium radius r of sea salt particles as a function of the saturation ratio S (S = RH/100) and the 80%-RH radius r_o of the particles. Along with the assumption that the scattering coefficient is proportional to the square of the radii of the particles, Eq. (28) gives

$$b_o = b_s \left[\frac{5.13(1 - S)}{1.83 - S}\right]^{2/3}, \tag{29}$$

which is shown as the dotted line in all of the profiles in the appendix of this report.

For those flights in which the boundary layer was well mixed as indicated by the temperature lapse rate, b_o was expected to be relatively constant with height. This is borne out in all those cases except for those in which the relative humidity in the boundary layer was very high, for example see flight 19A. Here b_o decreases with height above about 1500 ft. This feature can be explained by considering that the nephelometer has a forward scatter truncation of about 5° which causes an underestimate of b_s for the larger particles. Since the particles swell to much larger sizes as RH approaches 100%, this error increases rapidly for the larger values of RH. The deviation of b_o from a constant value in the well-mixed boundary layer for flight 19A and similar flights (17A, 18A, and 19B) can be used to determine an average correction factor for b_s measured by the nephelometer as a function of RH. Figure 9 shows that this correction is necessary for RH > 90%, it is a factor of two at RH = 95%, and it appears to be about a factor of ten near RH = 100%. The correction was applied to flights 12A, 17A, 18A, 19A, and 19B and is shown as the dashed curve in those plots of the scattering coefficient.

The flights can be separated into two categories: one in which the boundary layer shows a well-mixed layer and sharp inversion, and a second where stable air is found close to the surface. One half

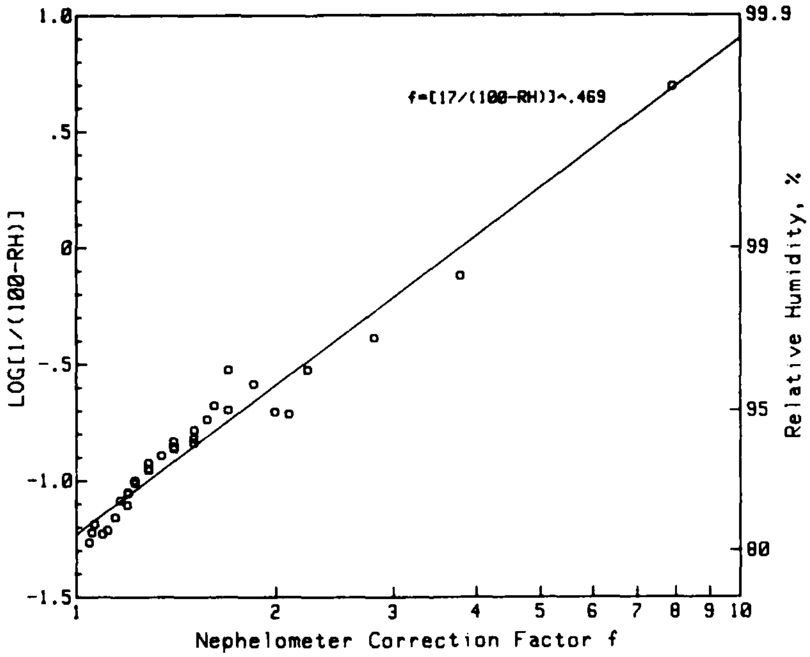

Fig. 9—Correction factor for the aerosol scattering coefficient measured with the nephelometer as a function of relative humidity (RH)

of the 24 flights fall in the former category and are listed in Table 2 along with some descriptions of the flights. The ratio b_0 (above inversion)/ b_0 (mixed layer) shown in the table is of interest for the purpose of predicting the vertical distribution of aerosols from measurements near the surface. In only one (flight 22) of the twelve well-mixed flights was the vertical dependence of b_0 similar to the classical case (e.g., see Fairall and Davidson [4]), where a sharp decrease in the aerosol concentration is found just above the inversion. In the remaining 11 flights the ratio of b_0 above and below the inversion is approximately unity, with even one case showing a positive ratio (flight 4). This behavior may be partly due to a lack of sea salt particles, because of low wind speed and a significant contribution to b_0 from continental aerosol or locally generated gas-to-particle aerosol which are mixed over a deeper layer; but the behavior also appears to be due to the formation of mixed layers within deeper and older layers that contain maritime aerosols. A good example of the latter is flight 4 where on preceding days strong winds had raised a deep boundary layer upwind containing maritime aerosols. This data set suggests that the best guess of the vertical aerosol concentration for the well-mixed cases is simply to assume a constant value of b_0 with height that extends through the inversion. Given that RH usually strongly decreases above the inversion, that assumption will be especially useful when the RH-dependent optical properties of the aerosol are desired.

In flight 22 where a significant decrease in b_0 above the inversion was found, a gradient in b_0 exists in the mixed layer, with b_0 decreasing by about 20% over the depth of the layer. This gradient is larger than the estimated 6% change of the mixing ratio W over the same depth. Since b_0 and W fall off roughly the same above the inversion, the difference between their gradients in the mixed layer may be explained by the greater flux of b_0 through the surface layer. This may well be the case, since a moderate wind was causing whitecaps and significant particle production. This observation suggests that an expression for mixed layer gradients such as given by Wyngaard and Brost [5] should be included in predictions of the vertical concentration of the aerosols. The obvious problem here is to determine the aerosol concentration above the inversion.

For the second category of flights where the atmosphere showed stability nearly to the surface as well as stable layers higher up, it is more difficult to find trends in the vertical dependence of b_0. For

Table 2—Flights with Mixed Layer

Flight	Conditions	Height of Inversion (ft)		Surface Wind (mph)	b_o above inversion / b_0 mixed layer
		Up (A)	Down (B)		
2	Clear	550	300	15	1
3	Clear	700	650	15	1
4	Clear	850	800	7.5	>1
5	Clear	700	500	20	1
11	Clear	450	400	10	$\lesssim 1$
12	Stratus	1350	1250	5	1
17	Stratus	1600	1500	15	$\lesssim 1$
18	Stratus	2000	?	20	1
19	Stratus	2300	2300	22	?
20	Clear	1550	1000	17.5	1
22	Clear	1250	1250	17	<1
23	Clear	800	550	10	1

the cases with inversions very close to the surface the particles generated at the sea surface are trapped in a thin layer. Since the upper layers are effectively uncoupled from the surface if the stability is strong enough, there will be little, if any, correlation between near surface values of b_o and b_o values higher up. In those cases a need to know vertical aerosol distributions will have to depend on remote sensing with lidar or in situ aerosol measurements. The vertical correlation between b_o and W for these flights is not good, suggesting that other than sea salt aerosol particles form a part of the aerosols above the inversions.

The present observations of b_s suggest that accurate modeling of the vertical aerosol distribution must ultimately rely on three-dimensional (3-D) models rather than single station estimates because the time evolution of the aerosols depends on interactions with 3-D meteorology [6].

4.2 Inversion Wind Jet

A noticeable feature of the measured vertical wind speed profiles is the existence of wind maxima coinciding with the sharpest part of the temperature inversion for some of the flights. This occurred before both onsets of stratus clouds as well as on several other flights. Similar observations were made previously and are summarized by Brost et al. [7] and Campbell [8]. Brost et al. [9] proposed that velocity jumps at the inversion were due to the baroclinity associated with sloping inversions. Friehe and Winant [10] suggested that the inversion wind jet was also a result of the strong baroclinity often found in the flow near the California coast. Based on the measurements during CODE (see Friehe and Winant [11]; Friehe [12]), Campbell [8] suggested that the inversion wind jet was a result of strong horizontal temperature gradients found in the free atmosphere above the inversion. The east-west temperature gradients, due to the land-ocean temperature difference, caused the northerly wind to decrease with height above the inversion.

The inversion wind jets noted in the present data give additional insight as to the mechanism of their formation and as to their importance in the dynamics of the inversion. The evolution of the boundary layer on October 24 is of special interest in this regard. After a lengthy period of stable Santa Ana conditions the westerly wind became reestablished on October 24 when rapid growth of the boundary layer was associated with inversion wind jets (see flights 10 to 12). The jets have the following characteristics: the peak of the jets is found at the height where the inversion is the sharpest, and it changes height at the same rate as the inversion; the wind speed below the jets falls off more rapidly than can be accounted for by friction coupling with the surface; the width of the jets above the sharpest part of the inversion is equal to the width of the transition region that exists between the sharp inversion and the free atmosphere in which the observed temperature changes very little during October 23

and 24; and the jet is a transitory phenomenon having almost disappeared by flight 12. The width of the transition region above the sharp part of the inversion appears to be influenced by mixing caused by an occasional breakdown of the jet due to shear instability. This is illustrated by the difference in the shape of the jets and temperature profiles between the ascending and descending portions of flight 11.

Given the measured profiles as well as buoy sea-surface temperature measurements from which a crude picture of the surface isotherms can be drawn, an explanation of the observed jets on October 24 can be proposed: The wind was blowing about parallel to the coast from the west and across surface isotherms that were oriented approximately southwest to northeast. The temperature increased towards the east at about 2°C/100 km and decreased towards the north with about the same gradient. A north-south slope developed at the inversion as it grew, because of the colder sea surface temperature in the y direction (y is north, x is east, and z is the vertical coordinate). This sloping surface created a strong positive value of dT/dy at the sharp part of the inversion, while below the inversion dT/dy was negative. The thermal wind equations predict that this arrangement will cause the geostrophic wind to increase with height up to the inversion and then sharply decrease above the inversion. This decrease is found over a height of about 200 m, because the jet that develops at the inversion apparently broadens the inversion by that amount by turbulence-induced entrainment. These possibilities are supported by solving a formulation of the thermal-geostrophic wind equations for this scenario [13].

Thus in this case the jet is formed because of the horizontal temperature gradients found within the sloped inversion rather than because of the temperature gradients found above the inversion by Campbell [8]. That is not to say that temperature gradients above the inversion can be neglected; rather, both type of gradients, if they are of the proper sign, should be important in creating jets. In the present case it simply turned out that the temperature gradients above the inversion were small. The present observations suggest that phenomena at the inversion can strongly depend on the orientation of the wind in the mixed layer to the surface isotherms. On October 24 this orientation caused a wind jet with a shear of as great as 0.1/s and a growth rate of the boundary layer of as much as 50 m/h.

It is not clear why the strong jets disappeared by flight 11; perhaps the sea-surface isotherms turned more normal to the wind with time and thus reduced the slope of the inversion. It is interesting to note the nature of the small remaining jet on the ascent of that flight and a jet of wind minimum at the same height on the descent. Those observations as well as what has been said to this point support the hypothesis of Brost et al. [7] that submesoscale baroclinities (slopes) on the inversion may generate shear that enhances entrainment, even though the mesoscale slope of the inversion is small.

Although the depth of the mixed layer must ultimately be a strong function of the buoyancy caused by the air-sea temperature difference, in the present case it may not be reliable to estimate growth rates of the mixed layer from entrainment rates that depend directly on buoyancy production (e.g., Stage and Businger [14]). Here buoyancy also produces potential energy of the sloping inversion which converts to turbulent kinetic energy (TKE) when the resulting jets become unstable and cause entrainment.

Given that the present observations were single-station profiles, obviously it is not possible to entirely take into account advection effects, so that in this case some inversion slope could have been advected such as in a cold front; again 3-D modeling is desirable. These results do, however, suggest that in any future large-scale field experiments in the SNI area careful attention should be paid to 3-D and time-dependent measurements of wind fields, boundary-layer heights, and temperature fields.

4.3 Cloud-Topped Boundary Layer

It is of interest to look closer at the several flights on which stratocumulus were present in the top portion of the boundary layer, because the clouds have a much more drastic effect on the performance of electro-optical and other systems than do aerosols, and because they strongly affect the dynamics of the boundary layer. Whereas the maritime stratocumulus off the California coast have been probed with aircraft during several field programs, the present effort with the tethered balloon gives a new look

at those clouds with an experimental arrangement that differs primarily in the much slower speed at which the atmosphere passes the sensors. The consequence of this difference is discussed, and conclusions derived from these observations are compared primarily with those based on field experiments described by Brost et al. [7,9], Albrecht et al. [15], and the Meteorological Office (Roach et al. [16]; Caughey et al. [17]; and Slingo et al. [18]), which also used a tethered balloon to study in this case nocturnal continental stratocumulus. The ascents on flights 12, 17, 18, and 19 were chosen for this closer look, because the wetting of the dry-bulb thermistor in the psychrometer was a bigger problem on the descents.

4.3.1 Vertical Velocity

It was possible to estimate, albeit crudely, vertical velocity w (m/s) profiles during those flights by observing fluctuations in the vertical velocity of the balloon as indicated by the balloon altimeter as the tether was let out at a constant rate, see Fig. 10. The dependence of the height h (m) of the balloon on time t (s) is given to a good approximation by

$$h = At + B[1 - \exp(Ct)] \tag{30}$$

which is differentiated to yield

$$w = \frac{dh}{dt} = A - BC\exp(Ct), \tag{31}$$

where $A = 0.455$ m/s is the balloon rise rate near the surface, and B and C are constants that depend on each flight.

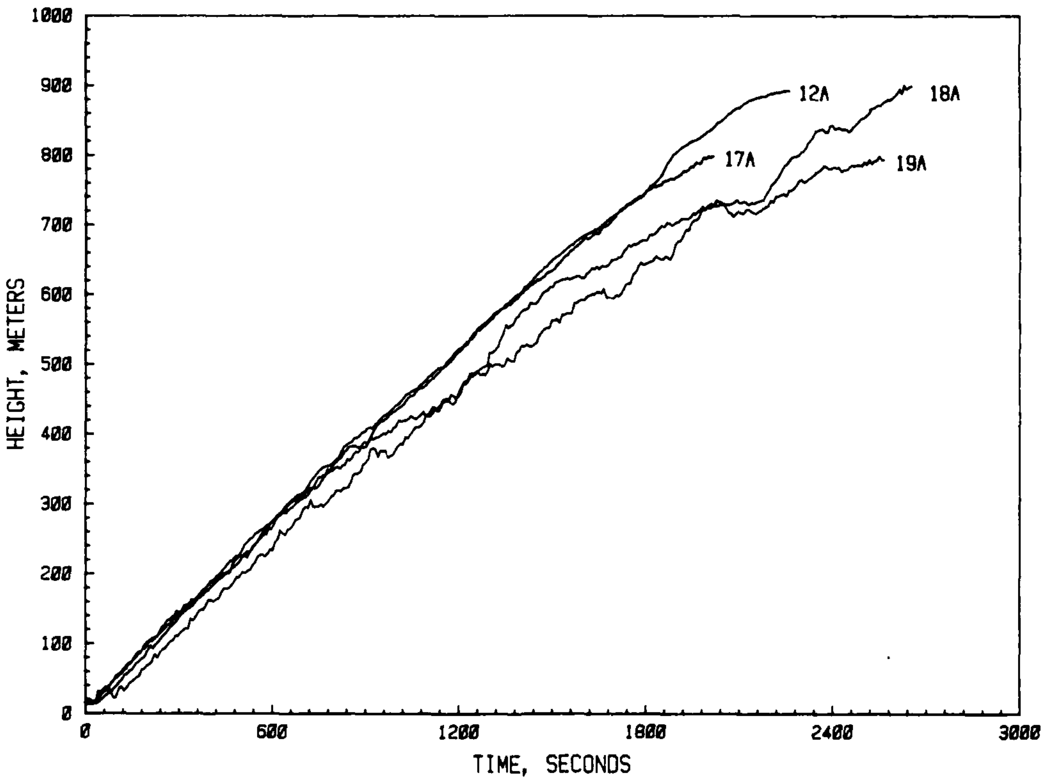

Fig. 10—The time dependence of the height of the tethered balloon for flights 12A, 17A, 18A, and 19A

The vertical variation of w determined in this manner is shown in Fig. 11 for the four flights. The values of w depend on the interaction of the balloon with the wind field, with the values reflecting eddies of a size equal to (about 10 m) and larger than the size of the balloon, and with values that are too small near the surface and perhaps too large near the maximum altitude of the balloon. Also shown in Fig. 11 is the variance σ_w^2 of the vertical wind which was averaged over about 100-m intervals of h. It is evident from this figure that the stratocumulus observed here behaved differently from those discussed by Brost et al. [7], because the ones here (12A, 17A, 18A) show buoyancy production within the clouds as indicated by the updrafts between the dashed lines in Fig. 11 (which give the limits of the clouds); Brost et al. [9] find little buoyancy production in their stratocumulus. On the other hand, Albrecht et al. [15] find some for the same data set. The difference between the clouds analyzed by Brost et al. [9] and Albrecht et al. [15] and those here may find its explanation in the different sea-surface temperature gradient that existed in the two separate situations. Brost et al. [9] show a relatively small surface temperature gradient in the direction of the wind, whereas here it appeared to be about 2°C/100 km, which caused significant convective activity in the mixed layer. The difference is also apparent in the profile of σ_w^2; Fig. 11 shows approximately linear profiles with some variance production in the clouds. Brost et al. [9], on the other hand, show a profile that decreases linearly with height and that is more indicative of a nonbuoyant and neutral atmosphere. They attribute the lack of buoyancy production by radiatively cooled parcels to the shear-induced entrainment of warmer air from above the clouds. It is interesting to note that the profile of σ_w^2 measured by Caughey et al. [17] with an instrumentation package suspended below their balloon for a case with nocturnal stratocumulus is similar to the ones found here, and they suggested it to be evidence of buoyancy production by radiatively cooled sinking parcels. The variance profile shown by Caughey et al. [17] is closest to the one shown for flight 19A (Fig. 11). That comparison must bear in mind that the present profiles are lacking the contribution of vertical velocity eddies smaller than about 10-m in size so that the profiles underestimate the true profiles by probably at least a factor of two.

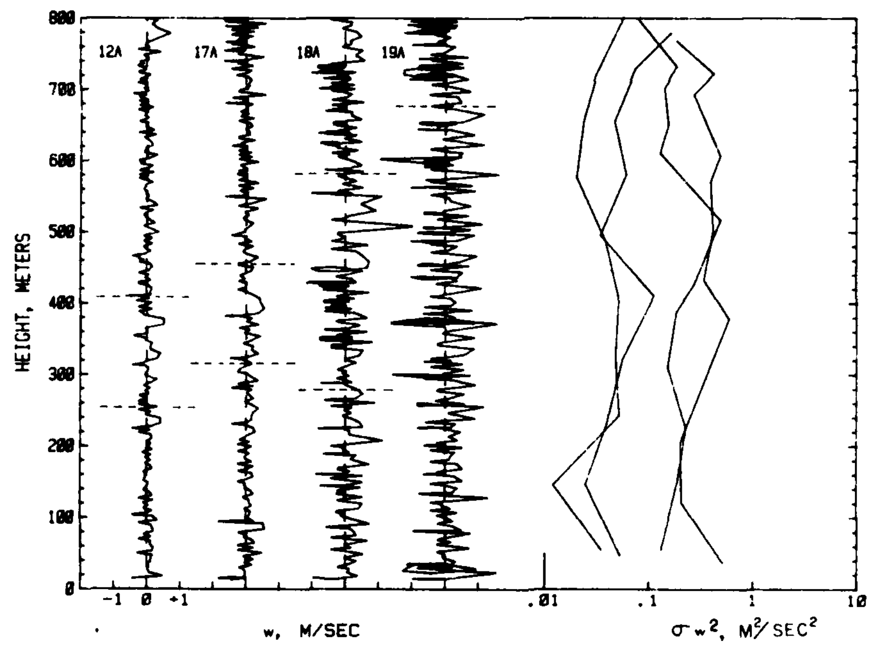

Fig. 11—Vertical velocity w of the air as deduced from the motion of the tethered balloon for the given flights. The curves for the variance σ_w^2 appear in the same sequence as the w profiles.

This manner of estimating w gives some clues as to the difficulties encountered when attempting to measure more exactly w from a tethered balloon with instrumentation designed to measure w. If this instrument is close to the balloon, then w of the balloon must be added to that seen by the instrument, while the reverse is true if the instrument is far from the balloon. It appears worthwhile,

nevertheless, to attempt to make precise w measurements with an instrument package suspended from tethered balloons. The present experience shows that altimeters are sufficiently precise so that the vertical motion of the balloon and tether can be taken into account.

4.3.2 Relative Humidity Profiles

The humidity profile as well as profiles of W, b_s, θ_v, and θ_e for flights 12A, 17A, 18A, and 19A are again given in Figs. 12 to 19; this time every measured data point is shown. The vertical profile of the gradient Richardson number Ri is a running average over a 30-m height.

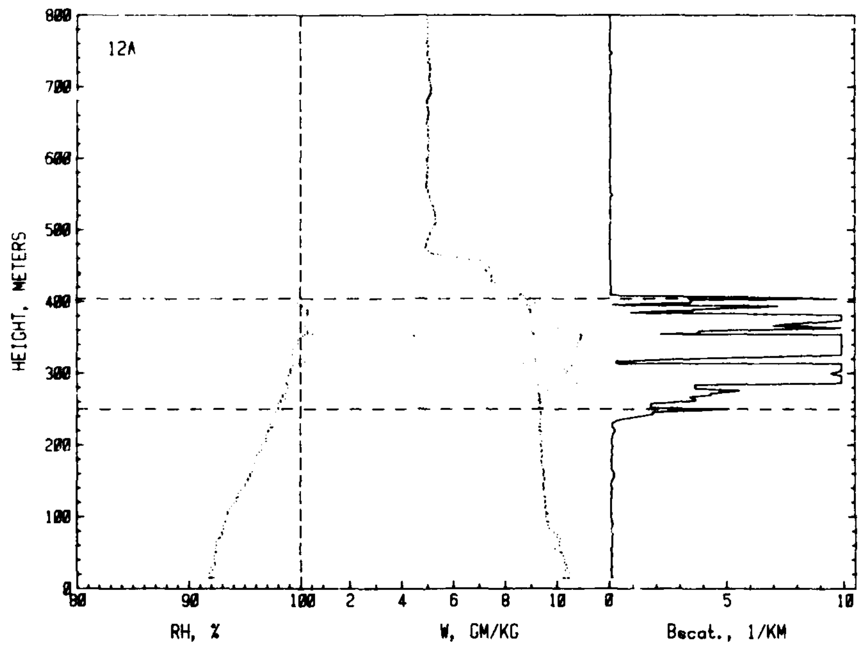

Fig. 12—Vertical profiles of RH, mixing ratio W, and scattering coefficient Bscat. for flight 12A

It is convenient to compare measured values of RH with values of b_s measured with the nephelometer in order to get an indication of the relative humidity in the stratus clouds. The nephelometer, while demonstrating some truncation error for large particles so that it will underestimate cloud optical thickness, nevertheless is a good indicator of the presence of cloud, because of its fast response. It is evident from Fig. 18 (flight 19A) that RH reached a value very close to 100% as the nephelometer intercepts the lowest cloud; the same occurs for the higher clouds on that flight and on the descent (flight 19B). This behavior is the expected one in view of what has been said previously about the accuracy of the psychrometer. Unexpectedly, this is not the case in the other three flights (12A, Fig. 12; 17A, Fig. 14; 18A, Fig. 16) where the lower portions of the cloud as observed with the nephelometer were unsaturated (RH < 100%). This is especially noticeable on flight 12A when the cloud coverage was 5/10, and less so when the cloud coverage was 8/10 on flight 17A, and when almost a solid overcast occurred on flight 18A. On the order of 50 m of the lowest part of the clouds appears to be unsaturated. It is unlikely that this observation is due to a lag in the response of the psychrometer (see Section 3.4). In addition, flights 12A, 17A, and 18A show the largest values of RH occur in the upper half of the cloud, which is consistent with the observed updrafts shown in Fig. 11. Thus latent heat release occurs in the upper part of the cloud, contrary to the conclusion reached by Brost et al. [9] for their maritime stratocumulus.

Why did flight 19A show unsaturated cloud while the others did not? The answer may be found in the different meteorological conditions that were present at the time of the flights. Flight 19A was

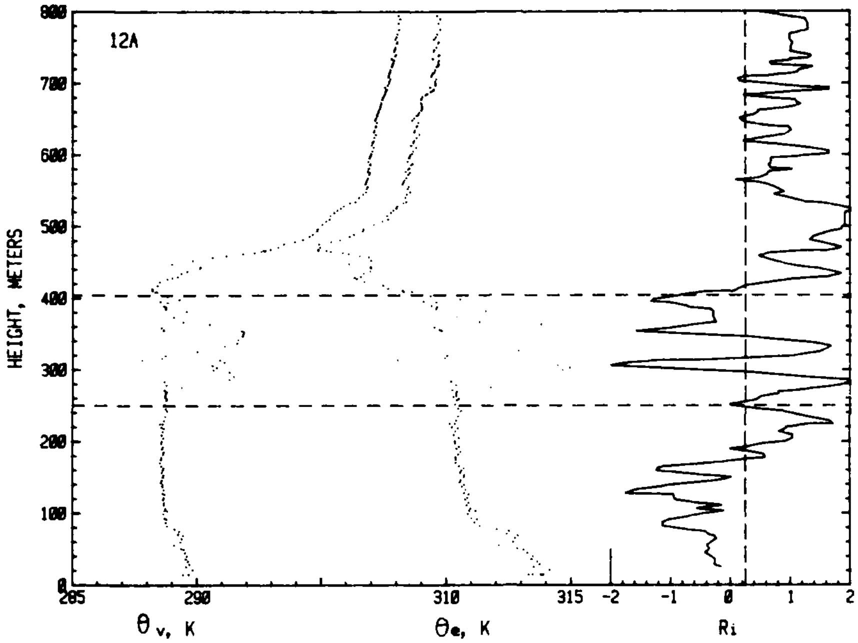

Fig. 13—Vertical profiles of virtual potential temperature θ_v, equivalent potential temperature θ_e, and the gradient Richardson number Ri for flight 12A

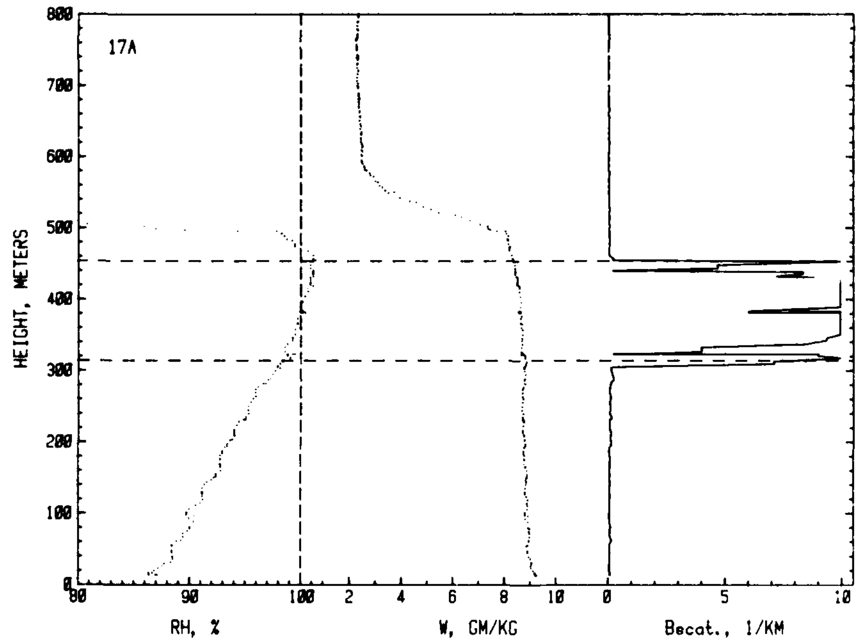

Fig. 14—Same as Fig. 12 except for flight 17A

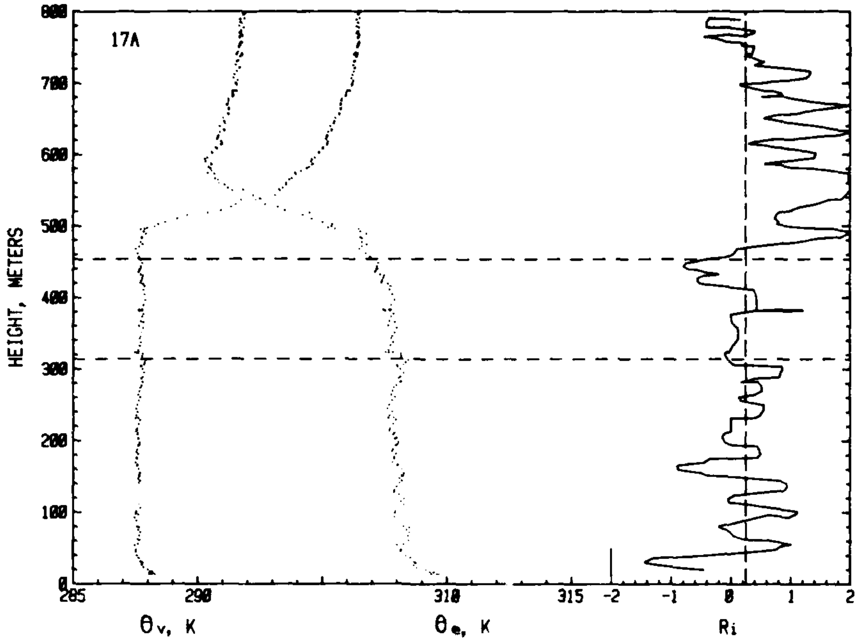

Fig. 15—Same as Fig. 13 except for flight 17A

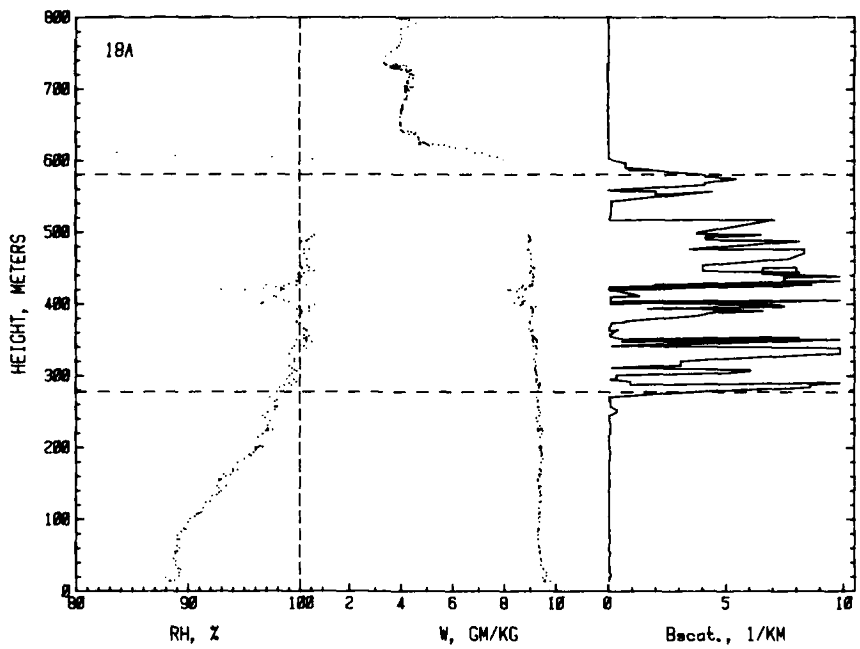

Fig. 16—Same as Fig. 12 except for flight 18A

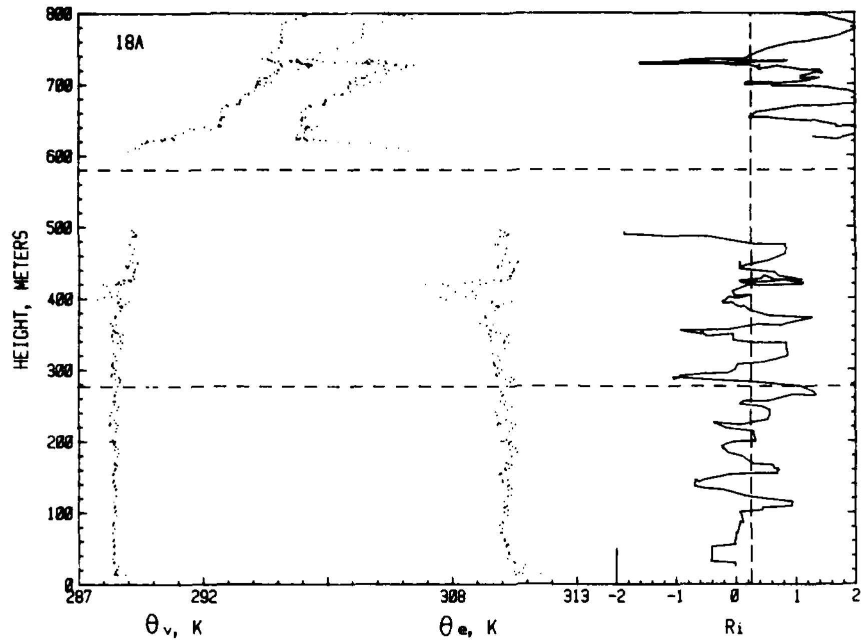

Fig. 17—Same as Fig. 13 except for flight 18A

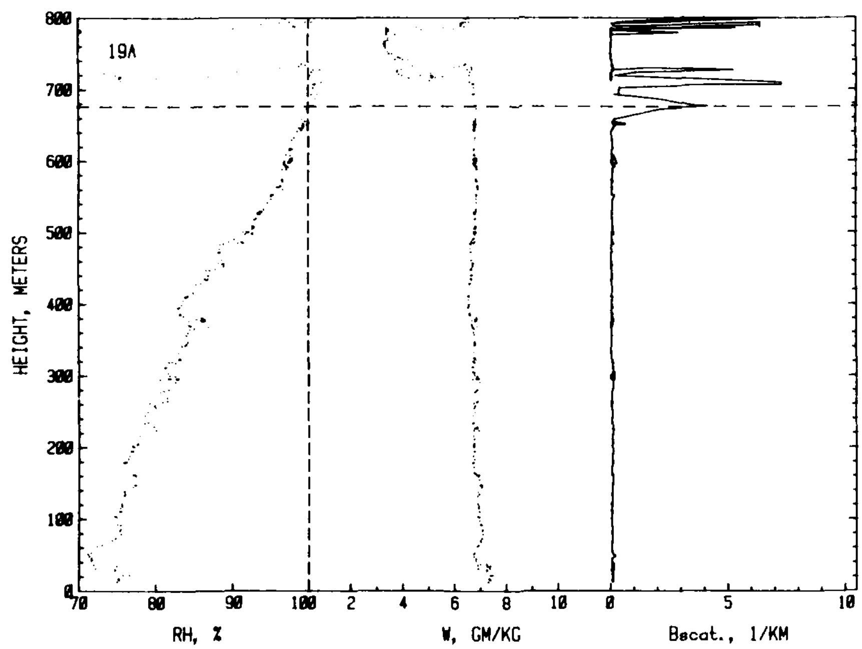

Fig. 18—Same as Fig. 12 except for flight 19A

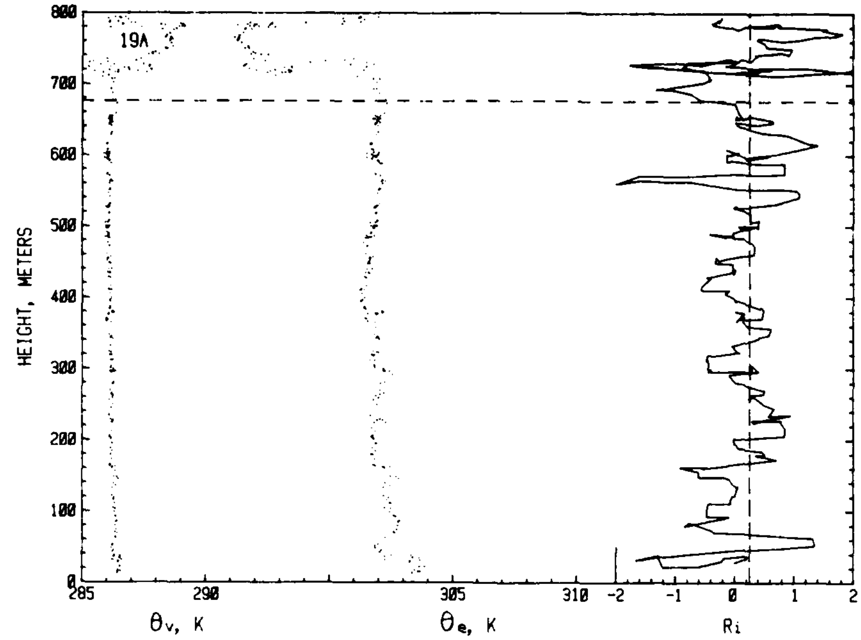

Fig. 19—Same as Fig. 13 except for flight 19A

made after the passage of a cold front that caused a deep unstable boundary layer with vigorous convection and turbulence. In this case the psychrometer may have seen the lifting condensation level (LCL) when it first penetrated the cloud, and the interface between the convective clouds and the environment on the other penetrations on flight 19A and 19B. On the other flights (12A, 17A, and 18A) the convection was less, and the mixed layer was capped with a strong inversion. In those cases the psychrometer saw unsaturated cloud that had ended up in the lower portion of the cloud due to sinking motions in the cloud. The LCL for those flights was above the observed lower limit of the cloud. This indicates that the extent of the cloud may be spread vertically as well as laterally from those regions in which condensation is actually taking place.

It appears highly desirable to improve the accuracy of the RH measurements in future experiments of this sort in order to better quantify the preceding observations. A sensor is needed that is resilient to wetting by droplets, and that gives high accuracy near 100%. Such a sensor (saturation hygrometer), with resistance to wetting, with an accuracy of at least one order of magnitude better near 100% RH than any other techniques, and with the unique capability of measuring RH greater than 100%, was developed some time ago at NRL. An example of measurements with this device is shown in Fig. 20 [19]. Note in this figure the periods of unsaturated fog during which the observed fog remained dense; similar phenomena are likely in the maritime stratocumulus. An attempt should be made to modify this instrument for tethered-balloon use in future experiments.

The present observations in the cloud further suggest that it is important to carefully measure the flux of liquid water in the cloud because apparently the water droplets are blown around in the cloud over significant instances before they evaporate. In conjunction with measurements of w, a rapid-response in situ sensor for liquid water operating on a new principal [3] appears ideally suited for such balloon-borne observations.

4.3.3 General Characteristics

The vertical profiles of moisture and temperature of the stratocumulus observed here generally resemble those observed by the Meteorological Office (see Roach et al. [16]). In both cases the upper limit of the cloud is found close to the base of the sharp part of the inversion (entrainment interface

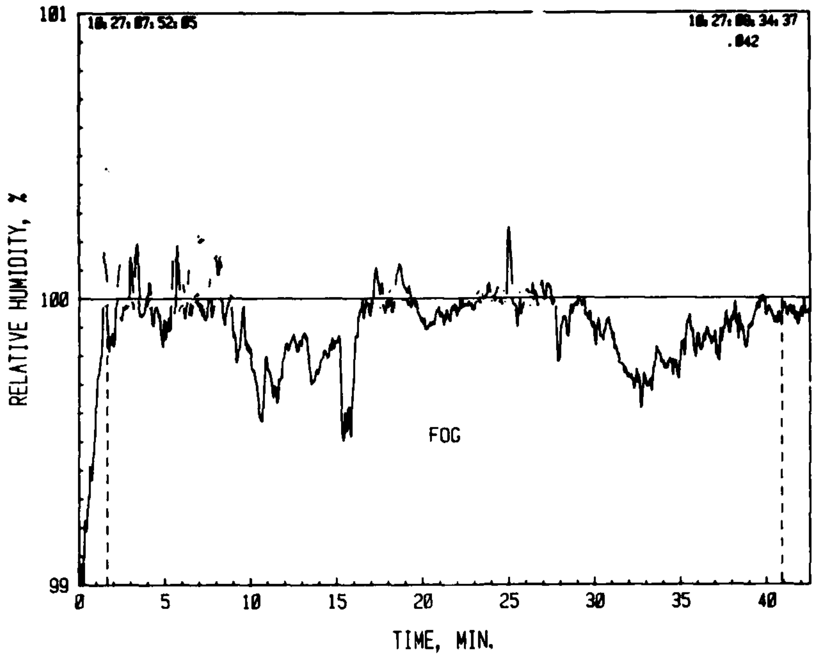

Fig. 20—Relative humidity measurements with the saturation hygrometer in radiation fog. The dashed lines indicate the interval over which the visibility was less than 100 m. The value of S is the mean supersaturation found when the relative humidity exceeded 100%.

layer (EIL) according to Roach et al. [16]). (On flight 17A, Fig. 15, the 40-m height difference between the inversion and cloud top is likely due to wetting of the psychrometer dry bulb). Stratocumulus shown higher than that (e.g., Albrecht et al. [15]) may be an artifact of the bias error (Brost et al. [7]) associated with aircraft soundings. Also in both cases a large temperature jump is found at the EIL, although in the present case the depth of the EIL is as much as an order of magnitude larger than the one found by the Meteorological Office. This is probably due to the much smaller degree of convection in the latter case as compared to that in the clouds observed here.

On flight 12A (Fig. 13) the mixed layer was very unstable as shown by the profiles of both θ_v and Ri. This is indicative of strong cold-air advection into the SNI area. Flight 19A (Fig. 19) also showed instability in the mixed layer; again cold-air advection following the passage of a cold front is the reason. The variance seen in the RH and θ_e profiles appears to decrease upward while θ_v remains largely unchanged; this is indicative of strong mixing of dryer air from aloft into the mixed layer with an accompanying strong upward flux of moisture, and θ_v remains nearly constant with height because the air-sea temperature difference has become small due to the high wind speeds. On the other hand, flight 17A (Fig. 15) shows nearly neutral conditions; and the prefrontal flight 18A (Fig. 17) shows essentially neutral conditions if one ignores the vertical fluctuations in θ_v. The neutral conditions for flight 18A probably occur because the southwest wind was more aligned with surface isotherms so that convective activity near the surface was small. In none of the flights was a significant vertical gradient found in W as was suggested is usually the case in mixed layers over the ocean [20].

The unusual features in flight 12A showing up in the profiles of W, θ_v, and θ_e are difficult to explain. The large increases of temperature within the cloud would first lead one to believe that a major entrainment episode had occurred, especially since the remnants of an inversion jet existed during that flight. That is inconsistent, however, with the large increase of W, which should decrease as a result of mixing dryer air into the cloud; furthermore Ri shows stability just above the cloud. The RH profile is also inconsistent because it shows values near 100% at the location of those features. Perhaps the psychrometer malfunctioned at that point. That is unlikely, however, because the nephelometer shows the sensors to be in dense cloud during those features. A guess as to what may have happened

is as follows: Entrainment occurred of warmer air from above the inversion with cloud below the inversion containing accumulated liquid water or drizzle droplets. These evaporated sufficiently to give near-saturated conditions while showing the large increase of W and temperature. Even though these features appear to be significantly below the inversion in Fig. 13, they may still have been near the top of the mixed layer when one realizes that the balloon observations are Eulerian in nature.

4.3.4 Entrainment

Although entrainment is generally considered a major mechanism by which maritime stratocumulus clouds grow as well as disperse (e.g., Randall et al. [21]), the exact mechanism of entrainment in the clouds remains an open question. This situation would benefit significantly from comprehensive field measurements, which have been sparse in comparison to theoretical investigations. Some new insight on the entrainment mechanism is provided by the present measurements.

Other than the unusual features in the profiles of flight 12A (Fig. 12), which may have been due to a sporadic shear-induced entrainment event, the relatively smooth portions of the profiles do not show evidence of strong and continual entrainment of dry and warm air from above the inversion. This is surprising in view of the strong buoyancy production near the surface, latent heat release in the cloud, radiational cooling at cloud top, wind shear at the inversion, and the negative jump in θ_e when moving up through the inversion, the latter being a criterion (Lilly [22] and others) for entrainment instability. The same holds for flight 17A (Fig. 14) where the surface buoyancy production was somewhat less. The explanation for the lack of strong entrainment is found in the stability of the region just above cloud top as indicated by the profile of Ri (Ri > 0.25 shows stability). There energy required to entrain the stable air must simply be too large to permit other than a low rate of entrainment, which is difficult to observe. The crucial contribution to the positive values of Ri is the sharp increase of θ_v just above cloud top. These observations suggest that the entrainment mechanism for these two cases depends on the fine scale of turbulence probably associated ith convective plumes, which causes gradual erosion of the EIL rather than causing entrainment of large eddies of air from above the EIL. These observations are also contrary to the observations of Brost et al. [9] who instead noted unstable Ri values just above the cloud. This indicated to them that shear-generated turbulence was likely an important entrainment mechanism in their clouds. Given these contrary findings, it is important to repeat such measurements with careful attention to sampling bias.

The situation on flight 18A (Fig. 17) had changed drastically from that on flight 17A (Fig. 15), which was 5 h earlier. By flight 18A the mixed layer had grown by 130 m, turbulence and vertical motions had strengthened, and entrainment had played a significant role as demonstrated by the changes in the profiles of θ_v and by the nature of the cloud, which was perforated with clear areas. Flight 18A appears to be a case demonstrating strong entrainment of air into the mixed layer. The decreasing variance of the profiles of θ_v and θ_e in the downward direction suggest downward entrainment, and an entrainment flux decreasing about linearly downward from the inversion (as hypothesized by Stage and Businger [14]). Also imbedded in the cloud appears to be direct evidence of an entrained eddy demonstrating the results of conditional instability of the first kind upside-down [23]. This eddy, located between 400 and 410 m, is cooler than its environment, somewhat drier, and is located in a region that shows sinking motion (Fig. 11). The region just above this eddy is about 0.5°C warmer than its environment. This is probably not due to entrainment, because this region is in a strong updraft; if it is indicative of latent heat release, then the warming corresponds to a liquid water content of about 0.25 g/m^3.

The preceding is tantalizing evidence of the importance of entrainment; unfortunately not enough measurements were made to explain why and exactly how it occurred, and why the large change occurred between flights 17A and 18A. The gap in the data near the inversion caused by the shorting of the psychrometer due to excessive cloud water on flight 18A was especially unfortunate. Contributing factors to the entrainment inferred in flight 18A may be the proximity of the cold front that passed the area near the apex of this flight. This could have caused clouds and instabilities higher up than the

region observed to affect the mixed layer; another influence could have been the convergence associated with the front.

These measurements, though incomplete, demonstrate the value of profiling maritime stratocumulus with a tethered balloon. An effort should be made in such future experiments to instrument the balloon with a more comprehensive instrument package in the manner demonstrated by the work of the Meteorological Office on nocturnal stratocumulus.

5. CONCLUSIONS AND RECOMMENDATIONS

This cursory glance at the maritime boundary layer off the California coast with a tethered balloon has yielded the following significant findings: A good approximation to the vertical aerosol concentration is to assume its RH-reduced value measured at about ship's level constant up through the boundary-layer inversion for the well-mixed cases; a good approximation to the vertical aerosol extinction profile (at least in the visible spectrum) is found by applying a simple approximate form of the RH-dependent growth equation to the measured aerosol concentration for the well-mixed cases; the inversion wind jet, which causes rapid growth of the boundary layer, can depend only on horizontal temperature gradients within the inversion rather than the gradients above the inversion, and the jet depends on the orientation of the surface isotherms to the prevailing wind direction; and entrainment into the stratocumulus clouds can proceed at a very low rate and be associated with the fine-scale turbulent structure even though wind shears and a large negative jump in the equivalent potential temperature which exist just above cloud top would suggest otherwise. While these findings should be refined by modeling and conducting additional and more comprehensive vertical structure measurements, because of the limited nature of the present experiment, it also became apparent that many other key scientific questions remain to be answered in this research area. These deal mostly with the synergistic relationships between the energy distribution, turbulence, radiation, aerosols and hydrometers, and meteorology associated with the stratocumulus clouds. A substantial amount of progress must yet be made in understanding the physics of those relationships before the long range goal of interpreting the properties of these clouds from satellite measurements can be accomplished.

During this field trip, the performance of the LTA tethered balloon and its telemetry system demonstrated the capability to make a nearly uninterrupted series of profile measurements in the maritime boundary layer. The LTA system operated to near perfection. Interruptions only occurred when the surface wind speed exceeded 10 m/s. During those times the balloon could not be launched because the enhanced turbulence near the surface may have affected the health of the balloon. It is recommended that an attempt is made to improve the launching and retrieval procedure (improved mooring system?) in order to permit launching at higher surface wind speed. This is highly desirable, since phenomena occurring at higher wind speeds need to be explained, and because during other parts of the year at SNI the wind can exceed 10 m/s on numerous occasions.

The suitability of SNI as a site for future studies of aerosol spatial distribution and maritime stratocumulus is judged to be as follows: The 12-day period in October 1984 of this field trip only reflected a maritime atmosphere about half of the time. However, this period was judged unusual by the resident meteorologist on SNI. The main effect of the location of SNI may be its relationship to the surface isotherms found in the general area. These tend to be tighter than those found farther off the coast (especially southwest of SNI) as seen from climatological records. This is not detrimental necessarily, because a tighter gradient will cause more drastic effects that could be a benefit in deciphering maritime stratocumulus. It only becomes necessary to monitor the surface temperature on a fine enough scale, and to study the phenomenon with enough time resolution. There must be a disturbing effect of SNI on the atmospheric flow and on the surrounding water temperature. The magnitude of this effect is not known. Given the location of Vizcaino Point on the upwind end of the island suggests that this effect may be minimal; however, such a conclusion must await comparisons of aircraft and island-based measurements. It would be more desirable to make surface-based measurements from a ship. However, given the large difference in the logistics of ship and island measurements, especially if comprehensive surface-based measurements are to be made, SNI is the best choice.

It is clear that tethered-balloon measurements should be an important part of any future study at SNI. If aircraft measurements are involved in the study, the experimental plan should be so designed that balloon and aircraft observations closely complement each other. The first priority for aircraft measurements is to fly parallel to the prevailing wind and on a path that intersects SNI. This is important, because each technique can provide crucial information that the other one cannot on the evolution of the boundary layer. Although aircraft measurements give the spatial variability on a large scale, they are difficult to interpret when an understanding of the important fine-scale phenomenon of the clouds is desired. This is especially true in the thin entrainment layer, where highly resolved microphysical measurements may hold the key to explaining entrainment. The balloon measurements should consist of numerous traverses of this layer and should also be used to obtain profiles of the entire mixed layer. Vertical velocity must be measured simultaneously with the other microphysical measurements from the balloon. The desired microphysical measurements include temperature, pressure, RH, liquid water, wind velocity, aerosol scattering coefficient and size distribution, and radiation.

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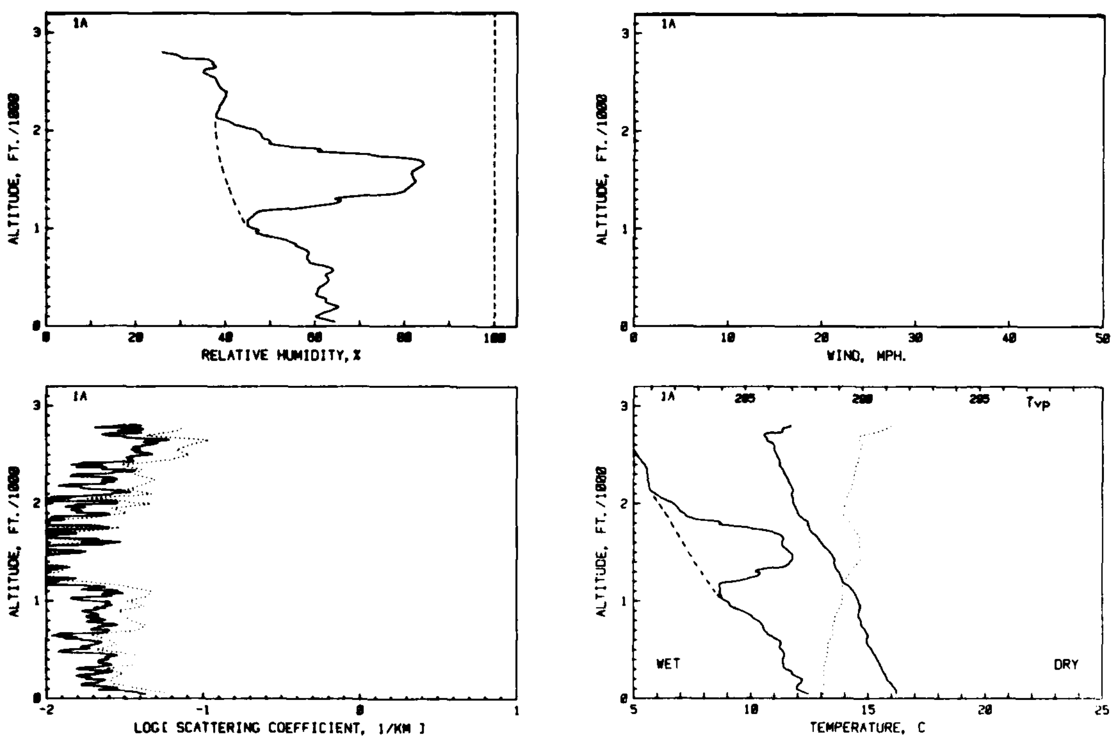
APPENDIX

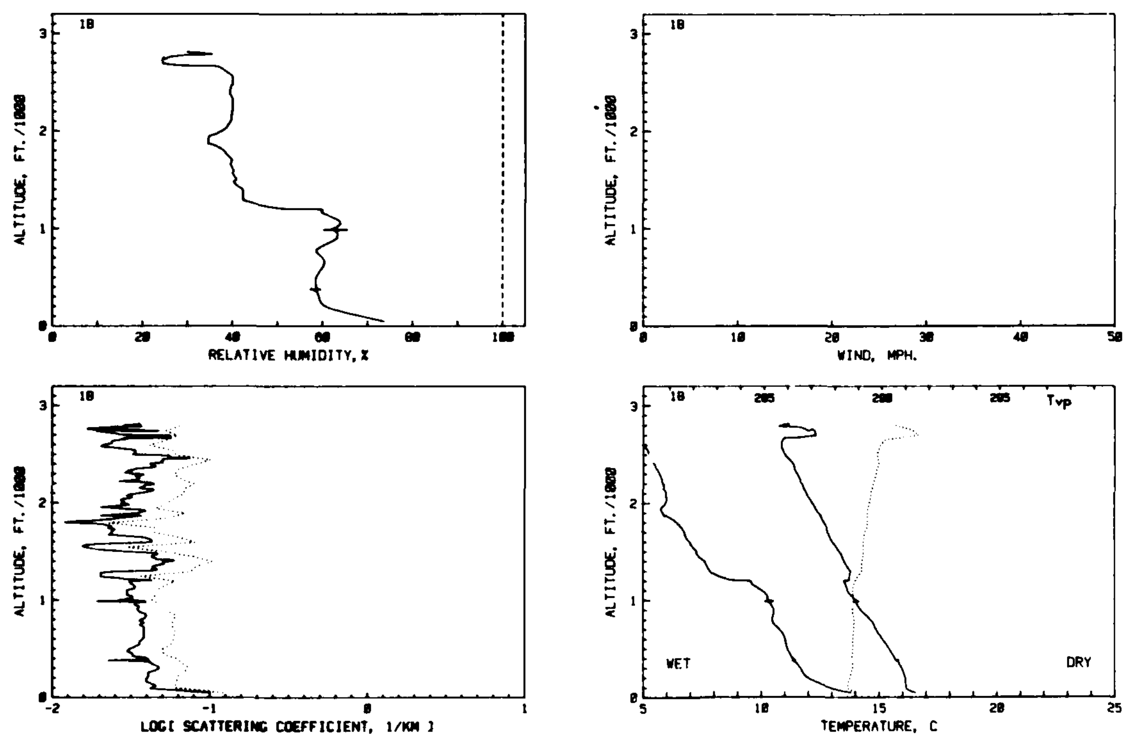
FLIGHT 1A, Oct.18

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	90216	16.2	12.5	64.34	7.2	287.1	0.0	.043	.0005
2	100	90333	16.2	12.0	60.29	6.7	287.2	0.0	.027	.0007
3	150	90523	16.0	12.1	62.73	6.9	287.2	0.0	.018	.0010
4	200	90656	15.8	12.2	65.10	7.1	287.1	0.0	.018	.0013
5	250	90830	15.7	11.8	62.24	6.8	287.2	0.0	.021	.0015
6	300	91015	15.6	11.5	61.07	6.6	287.2	0.0	.016	.0019
7	350	91148	15.5	11.4	60.54	6.5	287.3	0.0	.025	.0023
8	400	91305	15.4	11.4	61.09	6.6	287.3	0.0	.025	.0025
9	450	91438	15.3	11.5	62.80	6.7	287.4	0.0	.026	.0029
10	500	91612	15.2	11.4	62.77	6.7	287.4	0.0	.014	.0031
11	550	91745	15.0	11.3	63.55	6.7	287.4	0.0	.020	.0033
12	600	91902	14.9	11.2	63.26	6.6	287.5	0.0	.017	.0036
13	650	92052	15.0	10.8	58.92	6.2	287.7	0.0	.013	.0039
14	700	92242	14.9	10.6	58.22	6.1	287.7	0.0	.025	.0044
15	750	92400	14.7	10.5	58.77	6.1	287.7	0.0	.028	.0046
16	800	92548	14.7	10.3	57.06	5.9	287.8	0.0	.022	.0051
17	850	92722	14.6	10.0	55.40	5.7	287.9	0.0	.020	.0054
18	900	93054	14.6	9.6	51.72	5.4	288.0	0.0	.018	.0058
19	950	93330	14.7	9.1	47.14	4.9	288.2	0.0	.025	.0060
20	1000	93503	14.6	8.9	46.11	4.8	288.3	0.0	.019	.0064
21	1050	93636	14.5	8.7	44.96	4.6	288.4	0.0	.026	.0067
22	1100	93810	14.4	8.7	45.47	4.7	288.4	0.0	.027	.0072
23	1150	94000	14.2	8.7	46.68	4.7	288.4	0.0	.019	.0075
24	1200	94206	13.9	9.3	54.12	5.4	288.2	0.0	.011	.0076
25	1250	94337	13.8	10.2	63.46	6.3	288.3	0.0	.004	.0080
26	1300	94505	13.7	10.2	64.50	6.4	288.4	0.0	.009	.0079
27	1350	94650	13.6	11.4	76.83	7.6	288.4	0.0	.012	.0082
28	1400	94751	13.6	11.7	80.41	8.0	288.5	0.0	.004	.0082
29	1450	94950	13.5	11.8	81.86	8.1	288.6	0.0	.006	.0082
30	1500	95121	13.4	11.7	82.22	8.1	288.6	0.0	.015	.0084
31	1550	95240	13.2	11.4	81.68	7.9	288.5	0.0	.004	.0086
32	1600	95425	13.0	11.3	82.43	7.9	288.5	0.0	.029	.0088
33	1650	95609	12.8	11.4	84.27	8.0	288.5	0.0	.011	.0091
34	1700	95752	12.6	11.1	83.12	7.8	288.4	0.0	.014	.0092
35	1750	95923	12.5	10.0	73.11	6.8	288.5	0.0	.024	.0096
36	1800	100113	12.5	8.7	60.83	5.7	288.6	0.0	.002	.0097
37	1850	100243	12.2	7.5	51.36	4.7	288.5	0.0	.011	.0099
38	1900	100444	12.0	7.1	49.65	4.5	288.4	0.0	.020	.0102
39	1950	100617	11.9	6.9	47.98	4.3	288.5	0.0	.016	.0106
40	2000	100749	11.8	6.7	46.78	4.2	288.5	0.0	.027	.0108
41	2050	100933	11.8	6.3	43.06	3.9	288.7	0.0	.010	.0108
42	2100	101118	11.8	5.9	40.51	3.6	288.8	0.0	.026	.0110
43	2150	101331	11.8	5.7	37.89	3.4	288.9	0.0	.018	.0116
44	2200	101450	11.7	5.7	38.40	3.4	289.0	0.0	.023	.0116
45	2250	101651	11.6	5.6	38.78	3.5	289.0	0.0	.027	.0123
46	2300	101837	11.5	5.6	39.45	3.5	289.0	0.0	.020	.0125
47	2350	102012	11.4	5.6	40.12	3.5	289.1	0.0	.023	.0129
48	2400	102230	11.2	5.5	40.22	3.5	289.1	0.0	.017	.0131
49	2450	102439	11.2	5.3	38.70	3.4	289.3	0.0	.034	.0137
50	2500	102614	11.1	5.1	38.18	3.3	289.3	0.0	.045	.0144
51	2550	102737	11.0	5.0	37.29	3.2	289.3	0.0	.037	.0148
52	2600	102914	11.0	4.7	35.09	3.0	289.5	0.0	.044	.0157
53	2650	103124	10.7	4.7	37.72	3.2	289.3	0.0	.060	.0162
54	2700	103408	10.6	4.6	37.18	3.1	289.4	0.0	.024	.0168
55	2750	103723	11.4	4.4	29.95	2.7	290.3	0.0	.037	.0174
56	2800	104035	11.7	4.2	26.00	2.4	290.8	0.0	.039	.0176



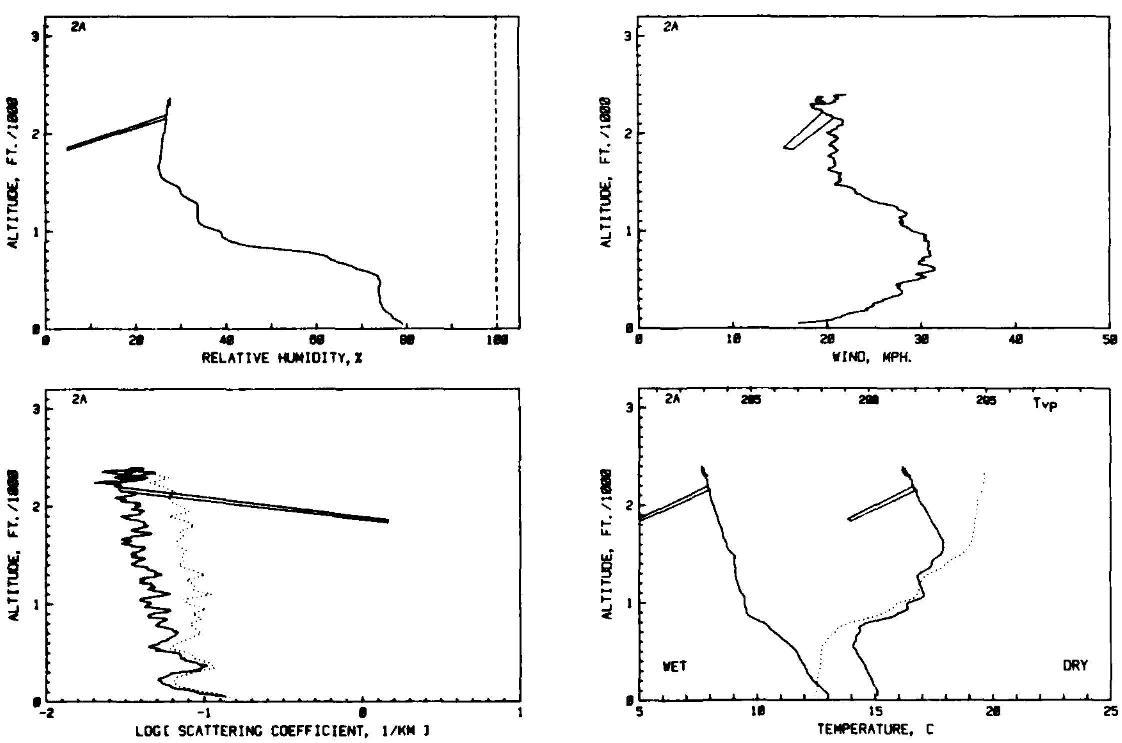
FLIGHT 18, Oct.18

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
56	2800	104243	11.0	4.4	32.54	2.8	290.1	0.0	.032	.0006
55	2750	104429	11.9	4.3	25.55	2.4	290.9	0.0	.026	.0010
54	2700	104956	12.3	4.5	24.51	2.3	291.1	0.0	.030	.0013
53	2650	105502	10.9	4.9	37.27	3.2	289.6	0.0	.027	.0026
52	2600	105534	10.9	5.0	38.88	3.3	289.4	0.0	.022	.0028
51	2550	105654	10.9	5.2	40.10	3.5	289.3	0.0	.031	.0032
50	2500	105744	11.0	5.3	40.09	3.5	289.2	0.0	.032	.0037
49	2450	105922	11.2	5.4	39.63	3.5	289.2	0.0	.054	.0041
48	2400	110043	11.4	5.5	39.41	3.5	289.3	0.0	.042	.0051
47	2350	110146	11.4	5.6	39.77	3.5	289.2	0.0	.034	.0058
46	2300	110337	11.5	5.7	40.00	3.6	289.1	0.0	.032	.0064
45	2250	110425	11.6	5.8	40.05	3.6	289.1	0.0	.035	.0070
44	2200	110616	11.7	5.8	39.95	3.6	289.0	0.0	.042	.0076
43	2150	110720	11.8	5.9	39.66	3.6	288.9	0.0	.037	.0080
42	2100	110854	11.9	6.0	39.59	3.6	288.9	0.0	.037	.0088
41	2050	110941	12.0	6.0	38.87	3.5	288.9	0.0	.031	.0091
40	2000	111101	12.2	6.0	37.63	3.5	288.9	0.0	.028	.0096
39	1950	111220	12.3	5.8	35.02	3.2	288.8	0.0	.024	.0099
38	1900	111337	12.4	5.8	34.59	3.2	288.8	0.0	.036	.0108
37	1850	111609	12.6	6.1	36.03	3.4	288.8	0.0	.028	.0113
36	1800	111656	12.7	6.4	37.97	3.6	288.8	0.0	.012	.0114
35	1750	111826	12.8	6.6	38.85	3.7	288.7	0.0	.024	.0118
34	1700	111913	12.8	6.7	39.83	3.8	288.6	0.0	.024	.0120
33	1650	112029	12.9	6.8	39.61	3.8	288.6	0.0	.034	.0125
32	1600	112116	13.0	7.0	40.18	3.8	288.5	0.0	.043	.0131
31	1550	112247	13.2	7.1	40.13	3.9	288.5	0.0	.016	.0135
30	1500	112333	13.3	7.3	40.78	4.0	288.5	0.0	.029	.0137
29	1450	112506	13.4	7.4	40.67	4.0	288.5	0.0	.043	.0146
28	1400	112624	13.5	7.6	42.17	4.1	288.4	0.0	.056	.0149
27	1350	112711	13.6	7.7	42.22	4.2	289.4	0.0	.044	.0158
26	1300	112828	13.8	7.8	42.32	4.2	288.4	0.0	.041	.0162
25	1250	112932	13.8	8.2	45.45	4.5	288.2	0.0	.020	.0167
24	1200	113125	13.6	9.4	58.20	5.7	287.9	0.0	.037	.0167
23	1150	113246	13.6	9.7	60.53	5.9	287.8	0.0	.033	.0176
22	1100	113317	13.7	10.0	63.02	6.2	287.7	0.0	.030	.0179
21	1050	113405	13.8	10.3	64.01	6.3	287.7	0.0	.030	.0186
20	1000	113437	14.0	10.3	62.65	6.3	287.7	0.0	.029	.0188
19	950	114353	14.1	10.4	63.39	6.4	287.7	0.0	.034	.0196
18	900	114425	14.2	10.5	6[illegible].16	6.4	287.6	0.0	.035	.0202
17	850	114501	14.4	10.5	61.30	6.3	287.7	0.0	.039	.0206
16	800	114531	14.6	10.5	59.24	6.1	287.8	0.0	.037	.0211
15	750	114602	14.8	10.6	58.91	6.1	287.7	0.0	.036	.0216
14	700	114647	14.9	10.8	60.04	6.3	287.7	0.0	.038	.0223
13	650	114718	15.0	10.9	60.46	6.4	287.7	0.0	.038	.0228
12	600	114748	15.1	11.0	59.98	6.4	287.7	0.0	.038	.0235
11	550	114819	15.3	11.1	59.25	6.4	287.7	0.0	.036	.0239
10	500	114850	15.4	11.1	58.59	6.3	287.7	0.0	.031	.0244
9	450	114921	15.6	11.2	58.52	6.4	287.6	0.0	.032	.0248
8	400	115007	15.7	11.3	58.68	6.4	287.6	0.0	.039	.0253
7	350	115611	15.8	11.5	58.82	6.5	287.6	0.0	.043	.0260
6	300	115642	16.0	11.7	59.24	6.6	287.6	0.0	.048	.0266
5	250	115729	16.1	11.8	59.60	6.6	287.5	0.0	.041	.0276
4	200	115759	16.1	12.0	60.85	6.8	287.5	0.0	.040	.0281
3	150	115830	16.1	12.4	64.30	7.2	287.3	0.0	.041	.0287
2	100	115900	16.2	12.9	68.81	7.7	287.2	0.0	.043	.0294
1	50	115946	16.5	13.8	73.57	8.4	287.4	0.0	.096	.0295



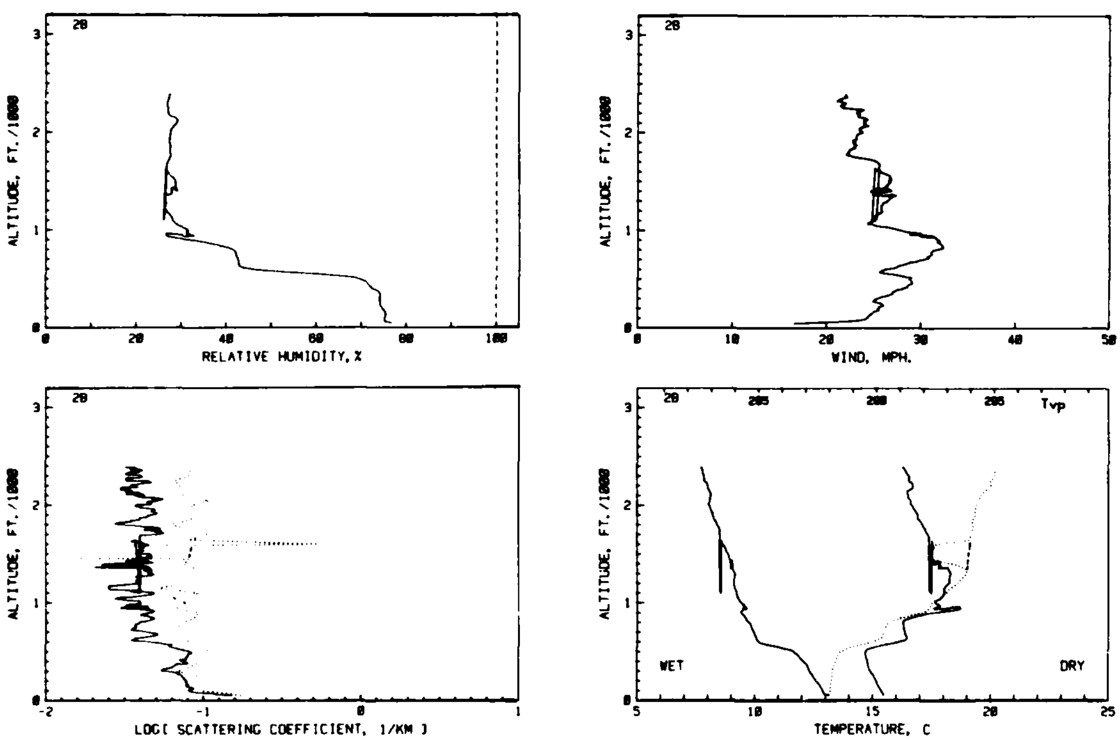
FLIGHT 2A, Oct.18

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	203243	15.1	13.0	79.00	8.3	286.3	17.0	.135	.0019
2	100	203325	15.1	12.8	77.30	8.1	286.4	21.0	.088	.0033
3	150	203359	15.0	12.6	76.31	7.9	286.4	22.5	.062	.0045
4	200	203432	14.9	12.4	74.86	7.8	286.5	24.3	.054	.0055
5	250	203458	14.7	12.2	74.35	7.7	286.5	25.1	.055	.0058
6	300	203533	14.7	12.1	74.04	7.6	286.6	26.3	.069	.0073
7	350	203601	14.6	12.0	73.92	7.5	286.6	27.9	.096	.0084
8	400	203638	14.4	11.9	73.79	7.5	286.6	27.8	.088	.0099
9	450	203723	14.3	11.8	74.11	7.5	286.6	27.5	.071	.0105
10	500	203741	14.2	11.7	74.11	7.4	286.7	29.8	.068	.0114
11	550	203823	14.1	11.5	73.37	7.3	286.7	29.6	.049	.0122
12	600	203907	14.2	11.2	70.32	7.0	286.9	31.4	.051	.0131
13	650	203946	14.2	11.0	67.54	6.8	287.1	30.3	.060	.0137
14	700	204026	14.4	10.7	63.83	6.5	287.4	30.3	.067	.0151
15	750	204057	14.3	10.5	61.84	6.3	287.6	31.0	.060	.0157
16	800	204135	14.8	10.2	55.15	5.8	288.2	30.8	.051	.0165
17	850	204212	15.7	9.8	45.47	5.1	289.2	30.8	.056	.0175
18	900	204251	16.1	9.5	40.97	4.7	289.8	30.3	.047	.0180
19	950	204327	16.4	9.5	39.08	4.6	290.2	30.5	.056	.0189
20	1000	204411	16.4	9.5	38.43	4.5	290.4	29.0	.044	.0198
21	1050	204454	17.0	9.5	35.20	4.3	291.1	28.0	.039	.0202
22	1100	204541	17.1	9.3	33.86	4.1	291.4	27.9	.059	.0209
23	1150	204623	17.0	9.2	33.70	4.1	291.4	28.2	.046	.0218
24	1200	204706	16.9	9.2	33.73	4.1	291.5	28.1	.047	.0227
25	1250	204739	16.8	9.1	33.77	4.1	291.6	27.3	.041	.0233
26	1300	204821	16.9	9.1	33.05	4.0	291.8	24.8	.054	.0239
27	1350	204855	17.3	9.1	31.06	3.9	292.3	23.8	.044	.0246
28	1400	204940	17.4	9.0	30.00	3.8	292.6	23.0	.036	.0253
29	1450	205013	17.5	9.0	29.58	3.8	292.9	22.2	.039	.0259
30	1500	205107	17.8	8.9	27.52	3.6	293.3	21.4	.037	.0265
31	1550	205139	17.9	8.8	25.93	3.4	293.5	21.3	.039	.0271
32	1600	205237	17.9	8.7	25.50	3.3	293.7	21.0	.035	.0276
33	1650	205327	17.9	8.6	25.13	3.3	293.8	20.7	.034	.0281
34	1700	205409	17.7	8.5	25.36	3.3	293.8	20.9	.038	.0286
35	1750	205443	17.6	8.5	25.58	3.3	293.9	20.5	.036	.0293
36	1800	205533	17.5	8.4	25.71	3.3	293.9	21.0	.044	.0301
37	1850	205605	17.4	8.3	25.87	3.3	293.9	20.8	.040	.0305
38	1900	205648	17.3	8.3	25.97	3.3	294.0	20.6	.031	.0311
39	1950	205720	17.2	8.2	26.07	3.3	294.0	21.3	.041	.0318
40	2000	205822	17.0	8.1	26.34	3.3	294.0	20.1	.037	.0322
41	2050	205917	16.9	8.1	26.50	3.3	294.0	21.1	.032	.0330
42	2100	210003	16.8	8.0	26.68	3.3	294.1	21.6	.031	.0335
43	2150	210040	16.8	8.0	26.80	3.3	294.2	21.1	.034	.0340
44	2200	210150	16.6	7.9	26.99	3.3	294.2	19.5	.029	3.6431
45	2250	210314	16.6	7.9	27.02	3.3	294.3	18.9	.024	3.6436
46	2300	210647	16.4	7.8	27.24	3.3	294.3	19.1	.031	3.6442
47	2350	210746	16.3	7.7	27.36	3.3	294.4	19.1	.024	3.6447



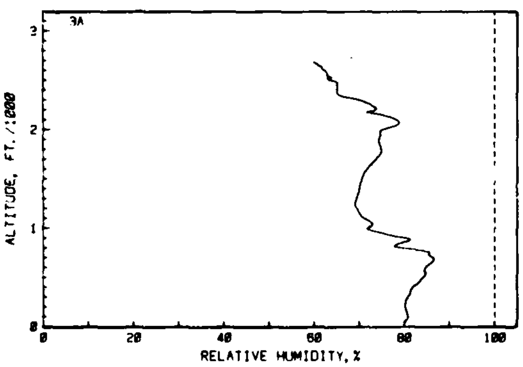
FLIGHT 28, Oct.18

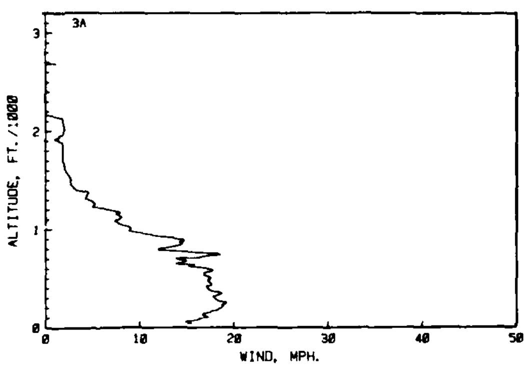
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
56	2350	211533	16.4	7.8	27.36	3.4	294.4	21.7	.041	.0009
55	2300	211624	16.5	7.8	27.04	3.3	294.4	22.0	.039	.0012
54	2250	211713	16.5	7.8	27.10	3.3	294.3	22.5	.032	.0018
53	2200	211826	16.7	8.0	27.16	3.4	294.3	23.2	.035	.0025
52	2150	212001	16.5	8.1	28.48	3.5	294.0	23.9	.033	.0028
51	2100	212127	16.5	8.1	29.09	3.6	293.8	24.1	.038	.0032
50	2050	212300	16.6	8.1	28.28	3.5	293.7	23.5	.054	.0041
49	2000	212417	16.6	8.1	27.67	3.4	293.6	23.8	.041	.0047
48	1950	212506	16.8	8.1	27.51	3.4	293.6	23.2	.049	.0055
47	1900	212556	16.9	8.2	27.40	3.4	293.6	23.0	.048	.0061
46	1850	212638	16.9	8.3	27.64	3.4	293.5	23.0	.039	.0067
45	1800	212721	17.1	8.4	27.49	3.5	293.5	22.3	.030	.0071
44	1750	212812	17.2	8.5	27.61	3.5	293.5	23.1	.045	.0077
43	1700	212904	17.3	8.5	27.09	3.4	293.4	25.4	.052	.0086
42	1650	212931	17.4	8.5	26.81	3.4	293.3	25.6	.039	.0089
41	1600	212939	16.4	8.1	28.81	3.5	291.8	25.3	.276	.0423
40	1550	212949	16.1	8.0	29.49	3.5	291.8	36.0	-.126	.0093
39	1500	212957	16.4	8.1	28.74	3.4	291.8	25.1	-.087	.0093
38	1450	213006	16.2	7.5	25.59	3.0	291.8	45.6	.039	.0095
37	1400	213755	17.5	9.0	29.06	3.7	292.7	25.5	.037	.0124
36	1350	214254	18.3	9.1	26.29	3.5	293.2	27.1	.045	.0133
35	1300	214344	18.3	9.1	26.39	3.5	293.2	26.4	.045	.0141
34	1250	214417	18.2	9.1	26.47	3.5	293.0	25.8	.039	.0147
33	1200	214452	18.2	9.1	26.45	3.5	292.8	25.9	.039	.0153
32	1150	214527	18.0	9.1	27.49	3.6	292.5	25.2	.025	.0157
31	1100	214601	18.0	9.2	28.01	3.6	292.3	24.8	.047	.0162
30	1050	214643	17.9	9.3	29.12	3.8	292.1	25.2	.031	.0168
29	1000	214724	17.7	9.4	31.37	4.0	291.6	27.9	.039	.0176
28	950	214818	17.7	9.5	31.85	4.0	291.5	30.8	.032	.0181
27	900	215229	17.6	9.4	31.50	4.0	291.3	32.0	.047	.0185
26	850	215304	16.7	9.6	37.61	4.5	290.3	32.3	.046	.0193
25	800	215347	16.3	9.7	41.48	4.8	289.7	31.4	.039	.0199
24	750	215420	16.3	9.9	42.16	4.9	289.5	31.0	.037	.0205
23	700	215453	16.4	10.0	42.58	4.9	289.5	30.0	.043	.0208
22	650	215528	16.4	10.0	42.76	5.0	289.4	28.1	.045	.0220
21	600	215611	16.1	10.2	45.51	5.2	288.9	26.2	.043	.0227
20	550	215653	15.2	10.9	59.09	6.3	287.8	27.1	.061	.0234
19	500	215743	14.7	11.7	69.33	7.2	287.2	28.9	.082	.0251
18	450	215810	14.7	11.9	71.50	7.4	287.1	29.0	.079	.0263
17	400	215837	14.8	12.1	72.53	7.5	287.0	28.0	.075	.0265
16	350	215921	14.8	12.3	74.15	7.7	286.9	27.0	.066	.0284
15	300	215947	14.9	12.3	74.14	7.7	286.8	25.4	.055	.0289
14	250	220021	15.0	12.5	74.22	7.8	286.8	25.8	.073	.0301
13	200	220054	15.1	12.6	74.61	7.9	286.8	25.5	.078	.0311
12	150	220129	15.2	12.8	75.39	8.0	286.7	24.8	.078	.0327
11	100	220202	15.4	12.9	75.29	8.0	286.7	24.3	.081	.0340
10	50	220253	15.4	13.1	76.60	8.2	286.6	17.0	.151	.0346

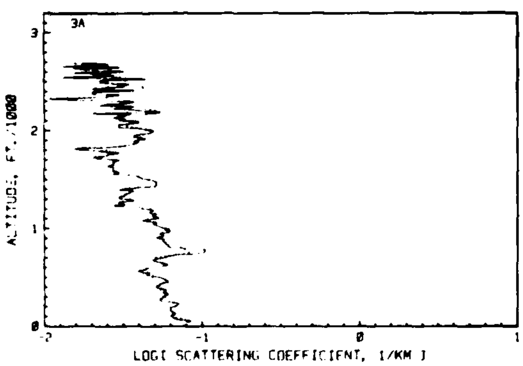


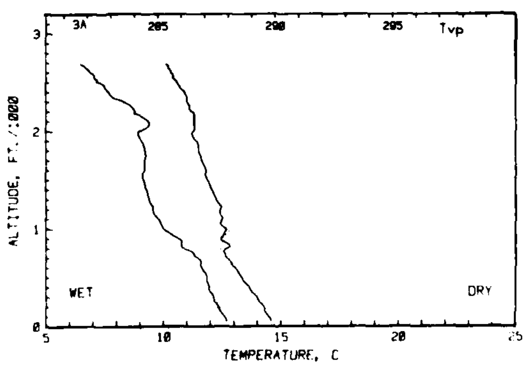
FLIGHT 3A, Oct.21

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	82757	14.6	12.7	80.33	8.2	286.1	15.5	.080	.0007
2	100	82842	14.5	12.6	80.72	8.2	286.1	16.8	.065	.0019
3	150	82911	14.3	12.5	80.51	8.1	286.1	17.2	.064	.0030
4	200	82941	14.3	12.3	80.12	8.0	286.2	18.6	.066	.0040
5	250	83011	14.1	12.2	80.27	7.9	286.1	19.1	.062	.0050
6	300	83041	14.0	12.1	80.78	8.0	286.2	18.0	.056	.0060
7	350	83118	13.8	12.0	81.37	7.9	286.1	18.7	.057	.0069
8	400	83148	13.7	11.9	81.89	7.9	286.2	17.2	.051	.0078
9	450	83221	13.5	11.9	83.20	8.0	286.1	17.6	.061	.0083
10	500	83258	13.3	11.9	84.20	8.0	286.2	17.5	.054	.0093
11	550	83335	13.2	11.8	84.75	8.0	286.2	16.8	.045	.0100
12	600	83412	13.1	11.6	84.59	7.9	286.2	17.2	.047	.0107
13	650	83455	12.9	11.6	85.97	8.0	286.1	13.8	.056	.0116
14	700	83519	12.7	11.5	86.46	7.9	286.1	14.0	.057	.0122
15	750	83555	12.6	11.3	85.59	7.8	286.2	18.3	.097	.0133
16	800	83633	12.7	10.9	79.84	7.4	286.4	12.0	.071	.0149
17	850	83704	12.7	10.8	79.15	7.3	286.6	14.5	.059	.0160
18	900	83734	12.4	10.6	80.45	7.3	286.4	14.1	.054	.0166
19	950	83820	12.6	10.3	75.44	6.9	286.8	11.1	.055	.0176
20	1000	83857	12.7	10.0	71.86	6.6	287.0	9.0	.059	.0182
21	1050	83935	12.4	9.9	72.94	6.7	286.9	8.0	.049	.0193
22	1100	84006	12.5	9.8	71.09	6.5	287.1	7.7	.050	.0199
23	1150	84035	12.4	9.6	70.05	6.4	287.2	7.7	.050	.0207
24	1200	84105	12.4	9.6	69.48	6.4	287.3	6.8	.045	.0213
25	1250	84141	12.4	9.5	69.11	6.3	287.4	5.2	.031	.0217
26	1300	84211	12.3	9.4	69.41	6.3	287.5	4.6	.033	.0223
27	1350	84241	12.2	9.3	69.78	6.3	287.5	4.4	.033	.0228
28	1400	84317	12.1	9.3	70.10	6.3	287.6	3.6	.032	.0232
29	1450	84359	12.0	9.2	70.29	6.3	287.6	2.9	.051	.0242
30	1500	84420	11.9	9.2	70.53	6.3	287.7	2.6	.047	.0248
31	1550	84456	11.8	9.1	70.97	6.3	287.7	2.5	.033	.0255
32	1600	84524	11.8	9.2	71.73	6.4	287.9	2.1	.028	.0259
33	1650	84544	11.7	9.2	72.61	6.5	288.0	2.0	.027	.0262
34	1700	84621	11.6	9.2	73.61	6.5	288.0	1.8	.029	.0267
35	1750	84649	11.6	9.3	74.64	6.6	288.1	1.8	.025	.0270
36	1800	84724	11.5	9.2	74.93	6.6	288.2	1.9	.019	.0274
37	1850	84758	11.5	9.2	74.61	6.6	288.3	1.8	.034	.0280
38	1900	84834	11.4	9.1	74.45	6.5	288.4	1.4	.039	.0284
39	1950	84916	11.2	8.9	74.64	6.5	288.4	1.4	.039	.0291
40	2000	84950	11.3	9.0	74.99	6.6	288.6	1.9	.048	.0298
41	2050	85032	11.3	9.3	78.43	6.9	288.7	1.9	.030	.0304
42	2100	85108	11.3	9.3	78.40	6.9	288.9	1.8	.034	.0310
43	2150	85149	11.3	9.1	75.39	6.6	289.1	1.0	.032	.0314
44	2200	85324	11.2	8.8	73.38	6.4	289.1	0.0	.044	.0322
45	2250	85404	11.1	8.6	72.89	6.4	289.1	0.0	.030	.0327
46	2300	85452	11.0	8.3	70.32	6.1	289.2	0.0	.031	.0331
47	2350	85545	11.0	7.9	65.80	5.7	289.3	0.0	.025	.0334
48	2400	85637	10.9	7.7	65.09	5.6	289.4	0.0	.025	.0337
49	2450	85804	10.7	7.5	64.99	5.6	289.3	0.0	.031	.0342
50	2500	85910	10.6	7.3	64.06	5.4	289.4	0.0	.025	.0346
51	2550	90129	10.4	7.0	62.94	5.3	289.3	0.0	.019	.0350
52	2600	90251	10.3	6.9	62.39	5.2	289.4	0.0	.028	.0353
53	2650	90411	10.2	6.7	61.15	5.1	289.4	0.0	.028	.0357



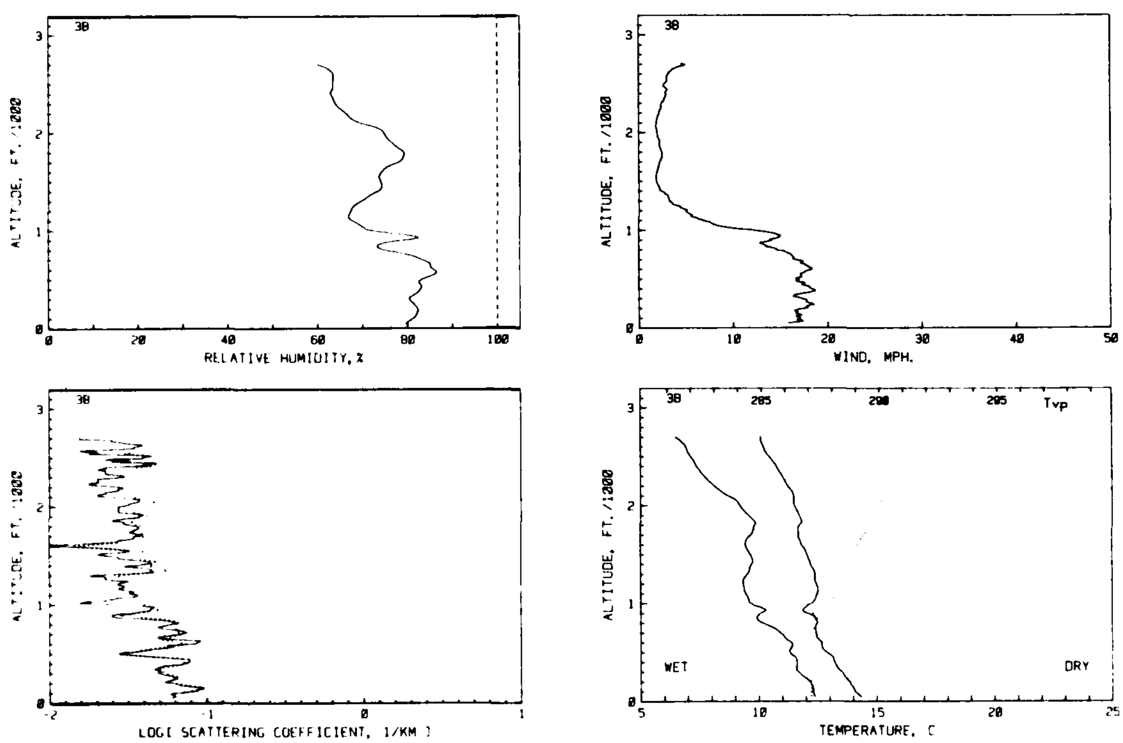






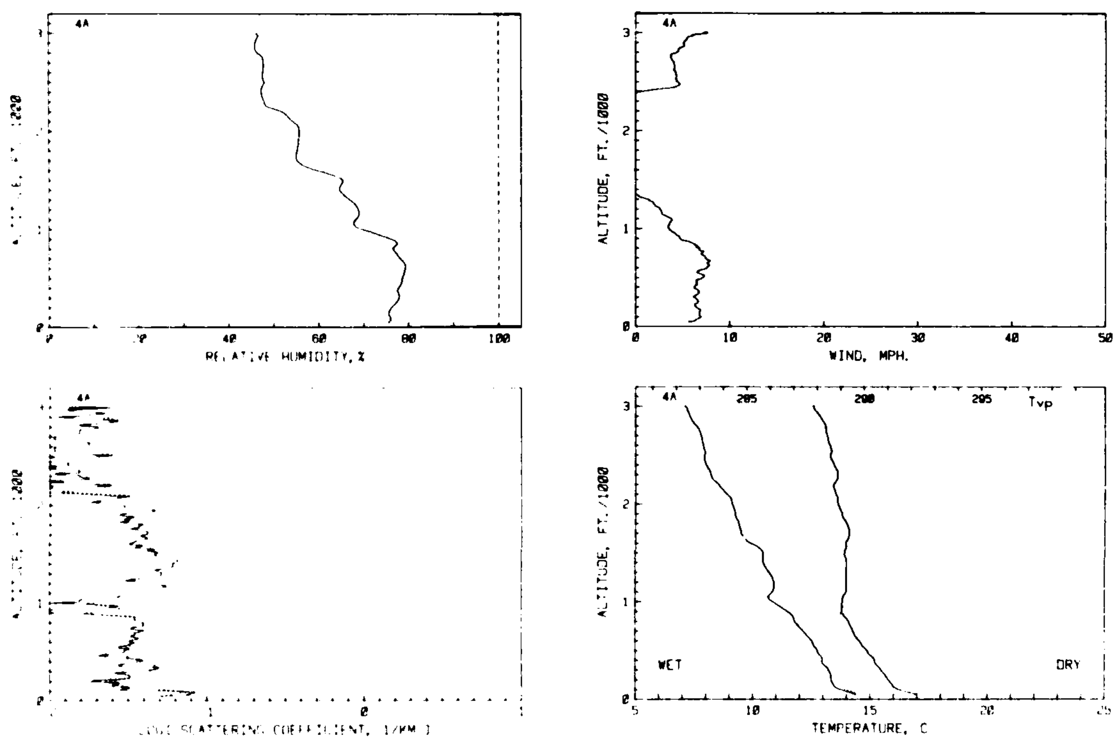
FLIGHT 38, Oct.21

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
53	2650	90705	10.1	6.8	62.09	5.1	289.3	3.6	.030	.0007
52	2600	90748	10.2	6.9	63.44	5.3	289.3	3.2	.035	.0013
51	2550	90816	10.3	7.0	63.57	5.3	289.2	3.0	.020	.0016
50	2500	90858	10.5	7.1	63.45	5.3	289.2	2.7	.039	.0022
49	2450	90948	10.6	7.3	63.44	5.4	289.2	3.0	.041	.0026
48	2400	91029	10.8	7.4	62.95	5.4	289.2	2.9	.023	.0032
47	2350	91111	10.9	7.5	63.40	5.5	289.2	2.8	.023	.0036
46	2300	91153	11.0	7.7	63.85	5.5	289.2	2.4	.028	.0040
45	2250	91235	11.1	7.9	64.69	5.6	289.1	2.4	.020	.0043
44	2200	91317	11.2	8.1	66.01	5.8	289.1	2.1	.028	.0047
43	2150	91353	11.4	8.4	67.17	5.9	289.1	2.0	.024	.0051
42	2100	91429	11.5	8.7	68.93	6.1	289.1	1.9	.025	.0053
41	2050	91505	11.5	9.1	72.65	6.5	288.9	1.8	.037	.0060
40	2000	91540	11.5	9.2	74.59	6.6	288.8	2.0	.028	.0064
39	1950	91617	11.6	9.4	75.26	6.7	288.7	2.0	.028	.0069
38	1900	91653	11.7	9.6	76.29	6.8	288.7	2.2	.037	.0075
37	1850	91730	11.8	9.8	77.46	7.0	288.6	2.3	.028	.0078
36	1800	91806	11.8	9.9	79.04	7.1	288.5	2.4	.036	.0083
35	1750	91835	11.7	9.8	79.15	7.1	288.2	2.5	.034	.0089
34	1700	91912	11.7	9.7	78.43	7.0	288.1	2.2	.035	.0094
33	1650	91948	11.7	9.5	76.03	6.8	288.0	2.1	.028	.0100
32	1600	92018	11.8	9.5	74.49	6.7	287.9	1.9	.011	.0101
31	1550	92048	12.0	9.5	73.74	6.6	287.9	1.8	.032	.0106
30	1500	92125	12.1	9.7	73.95	6.7	287.8	1.9	.023	.0110
29	1450	92148	12.1	9.7	74.28	6.7	287.8	2.1	.039	.0114
28	1400	92225	12.2	9.7	73.75	6.7	287.7	2.4	.034	.0120
27	1350	92255	12.3	9.6	71.69	6.6	287.6	3.1	.044	.0129
26	1300	92325	12.4	9.5	70.10	6.4	287.6	3.2	.019	.0132
25	1250	92355	12.4	9.4	68.32	6.3	287.4	4.1	.026	.0135
24	1200	92432	12.4	9.4	67.44	6.2	287.3	5.0	.029	.0139
23	1150	92503	12.5	9.4	67.03	6.2	287.3	5.6	.030	.0144
22	1100	92533	12.5	9.5	67.41	6.2	287.1	6.8	.036	.0149
21	1050	92602	12.4	9.6	69.30	6.3	286.9	8.3	.024	.0153
20	1000	92632	12.3	9.7	70.90	6.4	286.6	12.1	.031	.0156
19	950	92710	11.9	10.2	78.52	7.0	286.2	14.8	.044	.0163
18	900	92754	12.1	10.1	81.18	7.1	285.9	14.0	.026	.0167
17	850	92826	12.4	9.9	74.05	6.7	286.2	13.3	.045	.0172
16	800	92856	12.5	10.2	74.17	6.7	286.2	14.6	.061	.0182
15	750	92926	12.4	10.6	79.43	7.2	286.0	16.2	.057	.0191
14	700	93003	12.4	10.9	82.82	7.5	285.8	16.5	.068	.0203
13	650	93033	12.5	11.1	85.01	7.7	285.7	17.6	.056	.0208
12	600	93110	12.7	11.4	85.50	7.8	285.7	18.4	.082	.0225
11	550	93147	12.7	11.4	86.27	7.9	285.6	17.2	.048	.0234
10	500	93219	12.9	11.3	83.83	7.7	285.6	16.7	.029	.0239
9	450	93256	13.1	11.6	82.64	7.7	285.8	17.5	.070	.0244
8	400	93334	13.2	11.6	83.04	7.8	285.7	18.3	.073	.0260
7	350	93404	13.3	11.6	82.08	7.7	285.6	17.3	.049	.0267
6	300	93434	13.5	11.7	80.52	7.7	285.7	17.2	.051	.0275
5	250	93504	13.7	11.9	81.12	7.8	285.7	18.2	.065	.0285
4	200	93533	13.9	12.2	82.13	8.0	285.7	17.8	.062	.0293
3	150	93611	14.0	12.3	82.18	8.0	285.7	16.7	.094	.0306
2	100	93641	14.1	12.3	81.59	8.0	285.7	17.1	.065	.0317
1	50	93719	14.4	12.4	79.97	8.0	285.7	15.9	.061	.0327



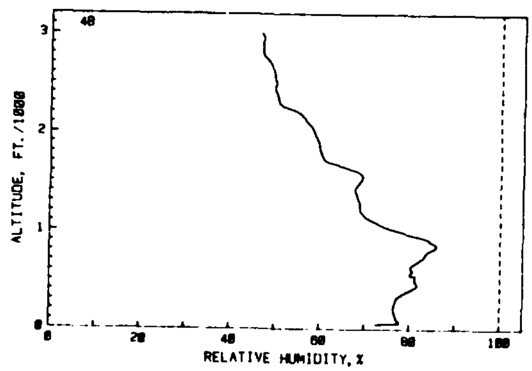
FLIGHT 4A, Oct.21

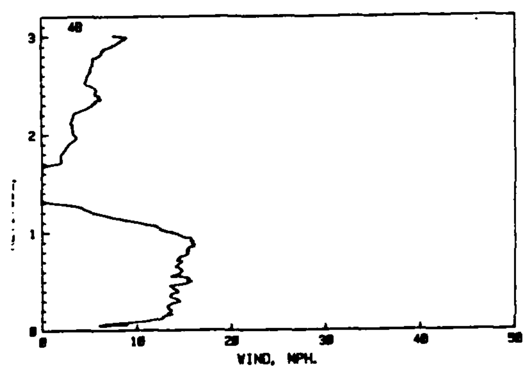
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	134535	17.0	14.4	75.35	8.9	288.4	5.7	.042	.0004
2	100	134613	16.2	13.8	75.95	8.6	287.8	6.9	.063	.0018
3	150	134643	15.9	13.4	75.58	8.4	287.6	6.8	.025	.0023
4	200	134714	15.8	13.4	76.18	8.4	287.6	6.4	.019	.0027
5	250	134752	15.6	13.3	77.21	8.4	287.6	6.7	.032	.0033
6	300	134814	15.5	13.2	77.87	8.4	287.6	6.2	.037	.0035
7	350	134854	15.3	13.1	77.72	8.3	287.6	6.8	.043	.0043
8	400	134924	15.2	13.0	77.73	8.3	287.6	6.2	.036	.0048
9	450	134954	15.0	12.9	78.42	8.3	287.6	6.5	.027	.0052
10	500	135032	14.9	12.8	78.65	8.3	287.6	7.1	.030	.0057
11	550	135102	14.7	12.6	79.00	8.2	287.5	6.6	.028	.0061
12	600	135138	14.5	12.5	79.31	8.2	287.6	7.6	.034	.0066
13	650	135208	14.4	12.3	79.13	8.1	287.5	7.6	.035	.0071
14	700	135245	14.3	12.1	78.22	8.0	287.6	7.5	.035	.0077
15	750	135315	14.2	12.0	77.40	7.8	287.6	7.1	.034	.0081
16	800	135345	14.1	11.8	76.57	7.7	287.7	6.8	.039	.0087
17	850	135421	13.9	11.7	77.45	7.7	287.7	6.1	.035	.0093
18	900	135450	13.8	11.5	76.16	7.6	287.7	4.7	.014	.0096
19	950	135526	13.8	11.2	73.11	7.3	287.9	4.2	.023	.0099
20	1000	135602	13.8	10.9	69.72	7.0	288.1	3.5	.012	.0101
21	1050	135640	13.8	10.7	67.77	6.8	288.2	3.6	.021	.0104
22	1100	135709	14.0	10.8	68.25	6.9	288.5	3.8	.033	.0109
23	1150	135737	14.0	10.9	68.95	7.0	288.7	2.8	.047	.0115
24	1200	135805	14.0	10.9	68.80	7.0	288.8	2.6	.047	.0124
25	1250	135832	14.0	10.8	68.19	6.9	289.0	2.0	.036	.0127
26	1300	135907	14.0	10.7	66.96	6.8	289.1	1.3	.051	.0136
27	1350	135934	14.0	10.6	65.64	6.7	289.3	.0	.051	.0143
28	1400	140007	14.0	10.5	64.67	6.6	289.4	0.0	.061	.0152
29	1450	140040	14.0	10.5	64.96	6.6	289.5	0.0	.063	.0162
30	1500	140108	13.9	10.4	65.38	6.7	289.6	0.0	.047	.0170
31	1550	140143	14.0	10.3	63.24	6.5	289.8	0.0	.046	.0176
32	1600	140211	14.0	9.9	59.78	6.1	290.0	0.0	.033	.0181
33	1650	140247	14.1	9.6	56.73	5.9	290.2	0.0	.039	.0187
34	1700	140321	14.1	9.5	55.20	5.7	290.4	0.0	.040	.0192
35	1750	140353	14.1	9.5	55.03	5.7	290.5	0.0	.036	.0199
36	1800	140423	14.0	9.4	55.19	5.7	290.6	0.0	.038	.0204
37	1850	140459	13.9	9.3	55.41	5.7	290.6	0.0	.032	.0209
38	1900	140526	13.8	9.3	55.49	5.7	290.7	0.0	.028	.0214
39	1950	140600	13.7	9.2	55.65	5.7	290.8	0.0	.047	.0220
40	2000	140634	13.6	9.1	55.66	5.7	290.8	0.0	.030	.0225
41	2050	140707	13.6	9.1	55.50	5.7	291.0	0.0	.022	.0228
42	2100	140735	13.5	8.9	54.32	5.5	291.1	0.0	.024	.0233
43	2150	140809	13.5	8.7	53.15	5.4	291.1	0.0	.007	.0235
44	2200	140843	13.5	8.5	51.91	5.3	291.3	0.0	.024	.0237
45	2250	140924	13.6	8.3	48.79	5.0	291.5	0.0	.010	.0240
46	2300	141005	13.6	8.2	47.89	4.9	291.7	0.0	.016	.0242
47	2350	141039	13.6	8.1	47.48	4.9	291.8	0.0	.016	.0244
48	2400	141120	13.5	8.0	47.29	4.8	291.9	.6	.011	.0246
49	2450	141156	13.4	7.9	47.43	4.8	291.9	4.3	.008	.0248
50	2500	141231	13.3	7.9	47.93	4.9	292.0	4.4	.020	.0248
51	2550	141321	13.4	7.9	47.59	4.9	292.2	4.3	.011	.0251
52	2600	141357	13.3	7.9	47.66	4.8	292.3	4.3	.011	.0253
53	2650	141425	13.2	7.8	47.78	4.8	292.4	4.2	.016	.0256
54	2700	141446	13.2	7.8	47.76	4.8	292.5	4.1	.011	.0257
55	2750	141515	13.1	7.7	47.56	4.8	292.6	3.7	.016	.0260
56	2800	141558	13.1	7.6	46.41	4.7	292.7	4.4	.020	.0262
57	2850	141647	13.0	7.4	45.88	4.6	292.7	4.8	.024	.0265
58	2900	141730	12.8	7.3	45.92	4.6	292.8	5.1	.012	.0268
59	2950	141821	12.7	7.2	46.35	4.6	292.8	5.5	.020	.0271
60	3000	142003	12.6	7.1	46.22	4.6	292.8	7.2	.023	.0273

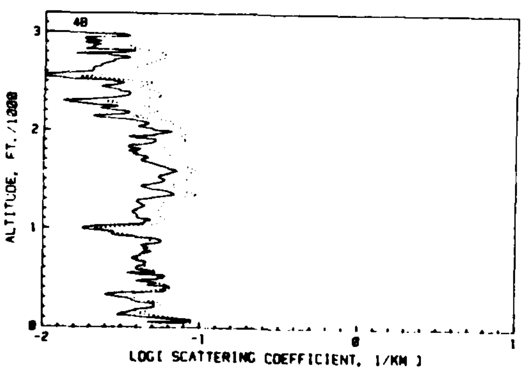


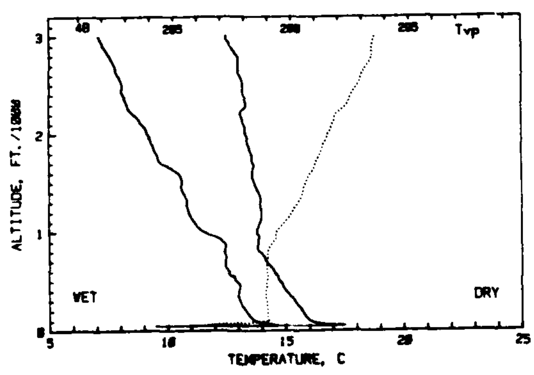
FLIGHT 4B, Oct.21

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
53	3000	142107	12.5	7.1	46.60	4.6	292.7	8.0	.015	.0001
52	2950	142211	12.6	7.2	47.04	4.6	292.6	8.3	.018	.0006
51	2900	142254	12.7	7.3	46.95	4.6	292.6	7.5	.018	.0009
50	2850	142337	12.8	7.4	47.03	4.7	292.6	6.4	.020	.0012
49	2800	142420	13.0	7.5	47.01	4.7	292.6	6.1	.032	.0017
48	2750	142509	13.0	7.7	47.70	4.8	292.5	5.5	.033	.0023
47	2700	142530	13.0	7.8	48.55	4.9	292.3	5.4	.026	.0028
46	2650	142552	13.0	7.8	49.06	4.9	292.2	5.2	.022	.0030
45	2600	142620	13.1	7.9	49.47	5.0	292.1	4.9	.019	.0033
44	2550	142648	13.2	8.0	49.61	5.0	292.0	4.8	.010	.0035
43	2500	142729	13.2	8.1	49.95	5.0	291.9	4.8	.028	.0038
42	2450	142758	13.2	8.1	49.65	5.0	291.8	5.8	.023	.0042
41	2400	142835	13.2	8.1	49.91	5.0	291.6	5.6	.030	.0047
40	2350	142911	13.3	8.2	50.27	5.1	291.6	6.2	.032	.0051
39	2300	142939	13.4	8.3	50.53	5.1	291.5	5.4	.014	.0054
38	2250	143015	13.2	8.4	52.18	5.2	291.2	4.5	.028	.0057
37	2200	143051	13.1	8.6	55.00	5.5	290.9	3.4	.032	.0061
36	2150	143127	13.2	8.8	56.20	5.6	290.8	3.2	.022	.0067
35	2100	143156	13.2	8.9	57.03	5.7	290.7	3.3	.040	.0070
34	2050	143231	13.3	9.1	58.01	5.8	290.7	3.3	.041	.0078
33	2000	143307	13.3	9.2	58.45	5.8	290.5	3.4	.056	.0086
32	1950	143337	13.4	9.3	58.97	5.9	290.5	3.6	.047	.0094
31	1900	143414	13.4	9.4	59.39	6.0	290.3	2.9	.051	.0104
30	1850	143442	13.5	9.5	59.63	6.0	290.3	2.5	.037	.0109
29	1800	143512	13.6	9.5	59.88	6.0	290.2	2.1	.038	.0115
28	1750	143540	13.6	9.6	60.30	6.1	290.1	2.0	.041	.0121
27	1700	143615	13.6	9.7	61.20	6.2	289.9	1.7	.042	.0126
26	1650	143656	13.7	10.2	65.01	6.6	289.8	0.0	.052	.0135
25	1600	143723	13.6	10.5	68.17	6.8	289.6	0.0	.066	.0144
24	1550	143757	13.6	10.6	69.28	7.0	289.5	0.0	.059	.0154
23	1500	143824	13.7	10.6	68.89	6.9	289.4	0.0	.058	.0162
22	1450	143900	13.8	10.6	67.99	6.9	289.3	0.0	.046	.0171
21	1400	143934	13.9	10.7	67.90	6.9	289.3	0.0	.051	.0178
20	1350	144002	13.9	10.8	68.22	6.9	289.2	0.0	.068	.0188
19	1300	144037	13.9	10.8	68.64	7.0	289.0	1.2	.042	.0196
18	1250	144113	14.0	10.9	68.82	7.0	288.9	4.2	.042	.0203
17	1200	144142	14.0	10.9	68.97	7.0	288.8	5.5	.039	.0209
16	1150	144205	14.0	11.0	69.88	7.1	288.7	7.5	.039	.0214
15	1100	144242	13.9	11.2	71.82	7.2	288.4	10.2	.045	.0220
14	1050	144311	13.9	11.3	73.95	7.4	288.2	12.2	.042	.0229
13	1000	144348	13.8	11.6	77.39	7.7	288.0	13.8	.018	.0231
12	950	144425	13.9	12.1	81.36	8.2	288.0	14.9	.028	.0235
11	900	144502	13.8	12.4	84.37	8.4	287.8	16.0	.052	.0242
10	850	144532	13.8	12.5	85.91	8.5	287.6	15.9	.051	.0251
9	800	144602	13.9	12.4	84.37	8.4	287.5	15.4	.045	.0257
8	750	144631	14.1	12.5	83.30	8.4	287.6	14.7	.044	.0264
7	700	144708	14.2	12.5	82.02	8.3	287.5	14.9	.037	.0271
6	650	144738	14.4	12.5	80.43	8.2	287.5	14.2	.044	.0276
5	600	144815	14.5	12.6	80.60	8.3	287.5	14.8	.039	.0283
4	550	144937	14.7	12.8	81.10	8.4	287.6	13.6	.045	.0287
3	500	145022	14.8	12.9	81.08	8.5	287.5	15.8	.056	.0298
2	450	145107	14.9	13.1	81.66	8.6	287.5	13.5	.053	.0306
1	400	145137	15.0	13.0	79.98	8.5	287.4	14.4	.061	.0317
0	350	145200	15.2	13.0	78.19	8.3	287.5	13.4	.033	.0322
-1	300	145238	15.4	13.1	76.96	8.3	287.5	14.5	.033	.0328
-2	250	145308	15.6	13.2	76.51	8.3	287.5	13.2	.048	.0333
-3	200	145338	15.7	13.3	76.56	8.4	287.5	13.6	.047	.0340
-4	150	145416	15.8	13.5	76.84	8.5	287.5	13.1	.034	.0347
-5	100	145447	16.0	13.7	77.18	8.6	287.6	11.5	.056	.0351
-6	50	145754	13.8	11.2	72.69	7.2	284.4	6.3	.068	.0360



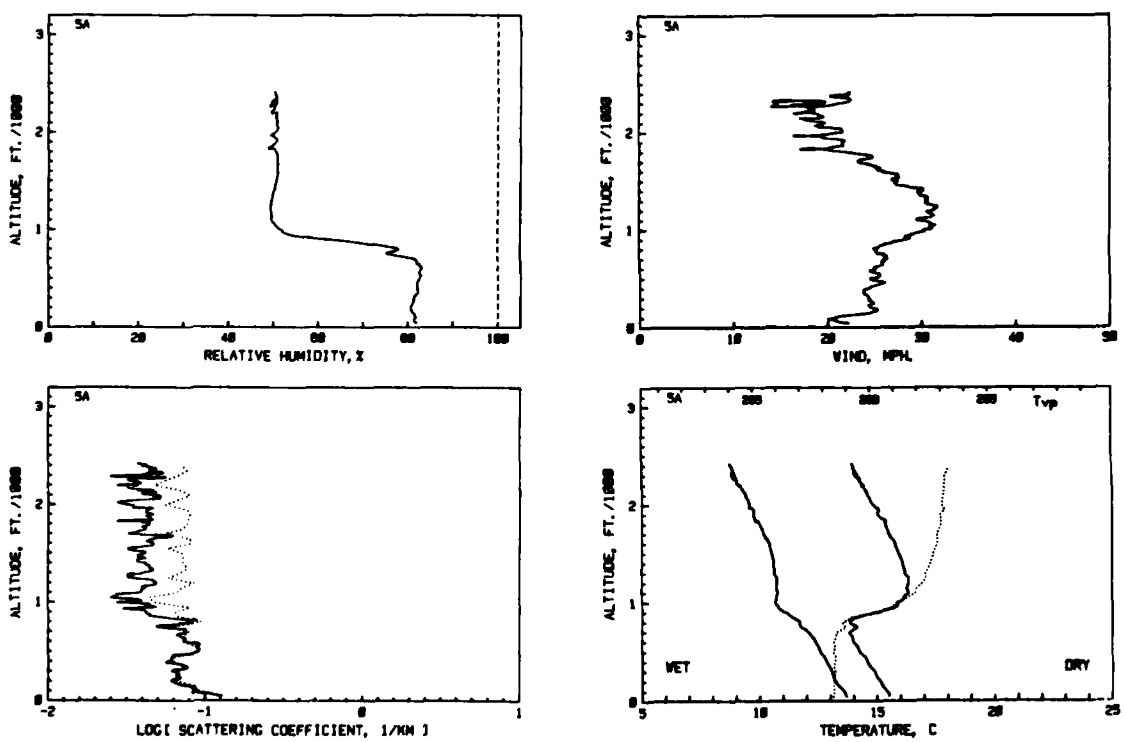






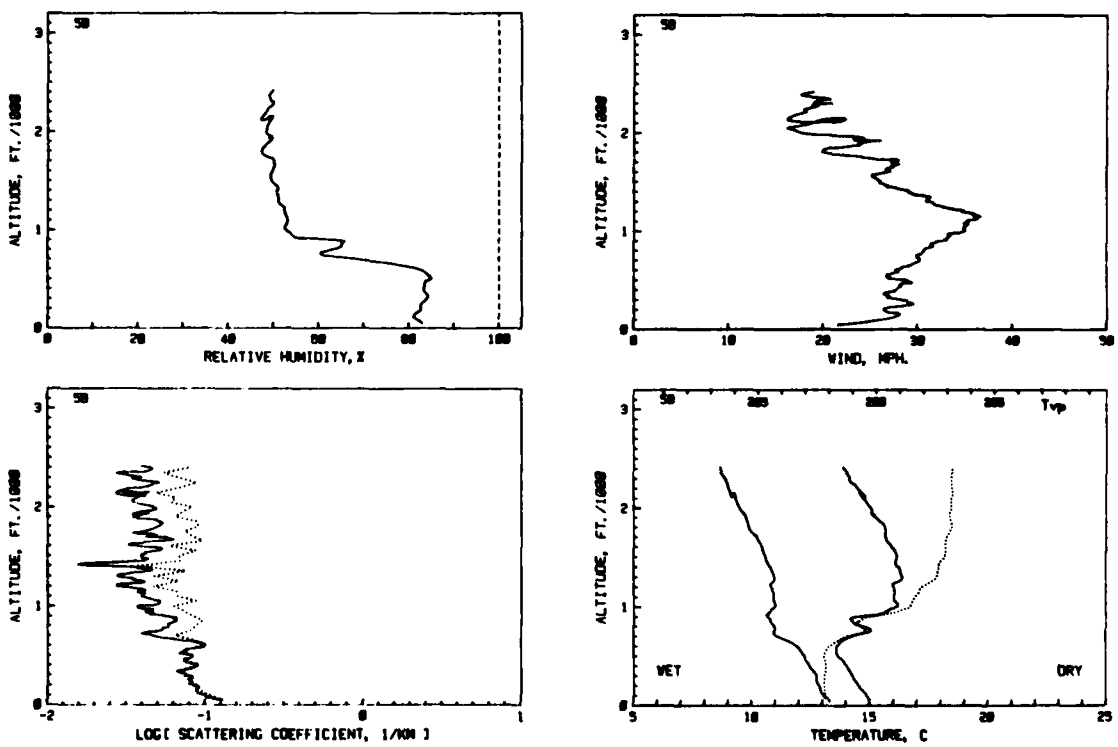
FLIGHT 5A, Oct.21

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	191850	15.5	13.7	81.93	8.8	286.9	22.1	.123	.0012
2	100	191938	15.4	13.6	81.70	8.8	286.9	20.9	.084	.0030
3	150	192010	15.2	13.4	81.16	8.6	286.9	24.5	.082	.0045
4	200	192032	15.1	13.2	80.62	8.5	287.0	24.7	.061	.0051
5	250	192104	15.0	13.1	81.15	8.5	287.0	24.9	.066	.0061
6	300	192134	14.9	13.1	81.38	8.5	287.0	24.4	.063	.0074
7	350	192213	14.7	12.9	82.19	8.5	287.0	23.8	.075	.0081
8	400	192244	14.6	12.8	82.17	8.4	287.0	24.2	.059	.0091
9	450	192315	14.5	12.7	82.07	8.4	287.0	25.8	.062	.0099
10	500	192401	14.3	12.6	82.71	8.4	287.0	24.5	.092	.0117
11	550	192431	14.2	12.5	82.62	8.3	287.1	25.4	.090	.0128
12	600	192510	14.0	12.4	83.22	8.3	287.0	25.1	.074	.0141
13	650	192548	13.9	12.2	82.17	8.2	287.1	25.8	.070	.0155
14	700	192620	13.8	12.1	81.40	8.1	287.2	26.4	.075	.0163
15	750	192659	14.2	11.8	75.49	7.6	287.6	25.9	.049	.0174
16	800	192732	13.8	11.7	77.87	7.7	287.5	25.2	.082	.0191
17	850	192811	14.2	11.4	71.31	7.3	288.0	26.1	.051	.0199
18	900	192843	15.1	11.1	61.51	6.6	289.0	28.3	.042	.0205
19	950	192921	15.8	10.8	53.60	6.1	289.9	29.0	.048	.0209
20	1000	193010	15.9	10.7	51.89	5.9	290.1	30.4	.028	.0217
21	1050	193057	16.2	10.7	50.46	5.9	290.5	31.4	.026	.0222
22	1100	193137	16.4	10.8	49.65	5.8	290.9	29.5	.038	.0225
23	1150	193215	16.3	10.7	49.71	5.8	291.0	31.3	.041	.0232
24	1200	193239	16.4	10.8	49.45	5.8	291.2	31.4	.049	.0238
25	1250	193318	16.4	10.8	49.55	5.9	291.3	31.2	.033	.0242
26	1300	193412	16.2	10.6	49.72	5.8	291.3	30.5	.040	.0247
27	1350	193444	16.2	10.6	49.93	5.9	291.4	29.8	.044	.0256
28	1400	193522	16.1	10.6	50.20	5.9	291.5	30.2	.042	.0262
29	1450	193611	16.0	10.6	50.48	5.9	291.6	28.4	.042	.0267
30	1500	193650	15.9	10.5	50.73	5.9	291.6	27.5	.041	.0272
31	1550	193736	15.8	10.5	50.94	5.9	291.7	27.4	.034	.0277
32	1600	193814	15.8	10.4	50.95	5.9	291.8	26.0	.047	.0284
33	1650	193855	15.6	10.3	51.01	5.8	291.8	25.3	.047	.0290
34	1700	194011	15.5	10.2	50.95	5.8	291.8	23.4	.032	.0298
35	1750	194043	15.4	10.1	50.91	5.8	291.9	24.8	.042	.0306
36	1800	194115	15.4	10.0	50.57	5.7	292.0	22.0	.044	.0312
37	1850	194313	15.3	9.8	49.52	5.6	292.0	20.5	.045	.0318
38	1900	194338	15.0	9.8	50.77	5.6	292.0	21.7	.046	.0328
39	1950	194418	15.1	9.8	50.32	5.6	292.2	19.5	.044	.0333
40	2000	194543	14.8	9.6	50.50	5.6	292.1	21.2	.032	.0340
41	2050	194614	14.7	9.5	51.13	5.6	292.1	20.5	.039	.0342
42	2100	194724	14.6	9.4	50.88	5.5	292.1	19.8	.046	.0351
43	2150	194914	14.5	9.3	50.66	5.5	292.2	19.0	.041	.0357
44	2200	195008	14.4	9.2	50.90	5.5	292.2	18.6	.028	.0362
45	2250	195149	14.3	9.0	50.27	5.4	292.2	18.1	.032	.0366
46	2300	195335	14.1	8.9	50.69	5.4	292.2	19.0	.039	.0371
47	2350	195827	14.1	8.9	50.63	5.4	292.3	22.3	.044	.0377
48	2400	195923	14.0	8.8	50.30	5.3	292.4	22.3	.041	.0382



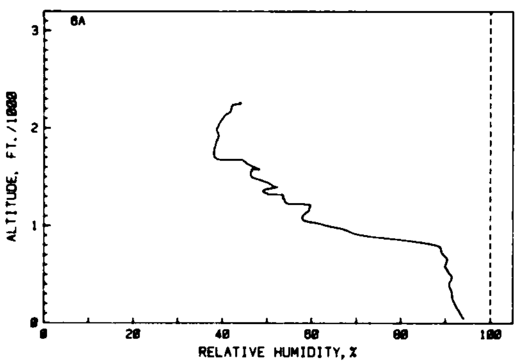
FLIGHT 58, Oct.21

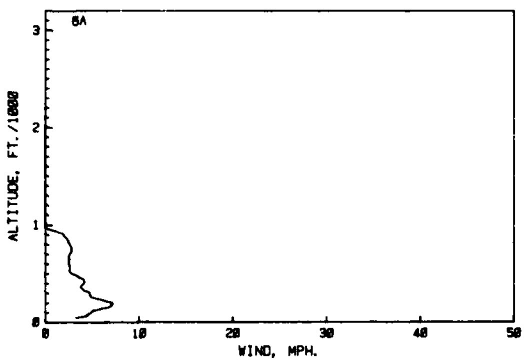
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
48	2400	200018	13.9	8.7	49.81	5.2	292.3	18.2	.044	.0012
47	2350	200059	14.1	8.7	49.13	5.2	292.3	20.2	.031	.0014
46	2300	200147	14.2	8.9	49.60	5.3	292.3	19.8	.039	.0020
45	2250	200322	14.3	9.0	49.43	5.3	292.3	18.6	.051	.0027
44	2200	200352	14.5	9.0	48.56	5.3	292.3	17.8	.040	.0035
43	2150	200417	14.7	9.1	47.74	5.2	292.3	16.3	.028	.0040
42	2100	200741	14.7	9.3	49.28	5.4	292.2	18.8	.037	.0045
41	2050	200757	14.9	9.4	48.70	5.4	292.2	16.3	.035	.0049
40	2000	200821	15.0	9.5	48.44	5.4	292.2	17.6	.047	.0057
39	1950	200918	15.1	9.6	49.28	5.5	292.1	24.1	.041	.0063
38	1900	201121	15.3	9.8	49.32	5.6	292.2	24.1	.037	.0071
37	1850	201230	15.5	9.8	48.20	5.5	292.2	21.3	.050	.0078
36	1800	201253	15.6	9.9	47.41	5.5	292.3	20.0	.051	.0088
35	1750	201316	15.7	10.0	48.03	5.5	292.1	24.2	.042	.0091
34	1700	201434	15.7	10.2	50.02	5.8	292.0	27.2	.047	.0099
33	1650	201523	15.8	10.3	50.32	5.8	291.9	27.5	.055	.0109
32	1600	201601	15.9	10.4	49.96	5.8	291.9	26.9	.034	.0114
31	1550	201648	16.1	10.5	49.46	5.8	291.9	25.3	.050	.0123
30	1500	201720	16.2	10.6	49.59	5.9	291.9	26.0	.039	.0129
29	1450	201759	16.1	10.7	50.55	5.9	291.7	27.0	.040	.0133
28	1400	201845	16.2	10.8	50.99	6.0	291.6	29.0	.022	.0137
27	1350	201939	16.3	10.9	51.01	6.0	291.6	31.3	.043	.0142
26	1300	202004	16.4	11.0	51.08	6.1	291.5	31.5	.028	.0146
25	1250	202036	16.2	10.9	51.65	6.1	291.2	32.6	.039	.0154
24	1200	202125	16.0	10.8	52.44	6.1	290.8	34.8	.028	.0155
23	1150	202214	16.1	10.9	52.70	6.1	290.7	36.4	.039	.0158
22	1100	202255	16.0	10.9	53.10	6.1	290.6	35.3	.039	.0165
21	1050	202335	16.1	11.0	52.77	6.1	290.5	34.9	.051	.0178
20	1000	202406	16.1	11.0	52.59	6.1	290.4	34.9	.037	.0181
19	950	202502	15.7	10.8	53.95	6.1	289.8	33.3	.044	.0189
18	900	202550	14.5	10.7	61.82	6.4	288.5	32.2	.054	.0194
17	850	202628	14.3	10.8	65.25	6.7	288.0	31.6	.065	.0200
16	800	202708	14.7	11.0	63.58	6.6	288.3	30.6	.059	.0209
15	750	202738	15.0	11.0	60.55	6.5	288.5	29.9	.052	.0222
14	700	202808	14.2	11.1	68.00	6.9	287.6	30.2	.046	.0228
13	650	202840	13.8	11.6	76.38	7.5	287.0	29.1	.069	.0239
12	600	202920	13.6	11.9	81.88	8.0	286.6	27.7	.097	.0252
11	550	202959	13.6	12.1	83.89	8.1	286.5	26.8	.075	.0269
10	500	203031	13.7	12.2	84.91	8.2	286.4	29.0	.083	.0278
9	450	203117	13.9	12.3	83.53	8.2	286.5	28.2	.074	.0292
8	400	203148	14.0	12.4	83.30	8.3	286.5	27.7	.090	.0305
7	350	203221	14.2	12.6	83.77	8.4	286.4	26.8	.074	.0317
6	300	203301	14.3	12.7	84.04	8.4	286.4	28.4	.075	.0326
5	250	203333	14.4	12.7	82.91	8.4	286.4	29.0	.078	.0342
4	200	203357	14.5	12.9	82.61	8.4	286.4	26.4	.083	.0351
3	150	203437	14.7	12.9	81.60	8.4	286.4	28.1	.089	.0369
2	100	203509	14.9	13.0	81.42	8.4	286.4	26.1	.097	.0377
1	50	203541	15.0	13.3	83.03	8.6	286.4	21.7	.130	.0395

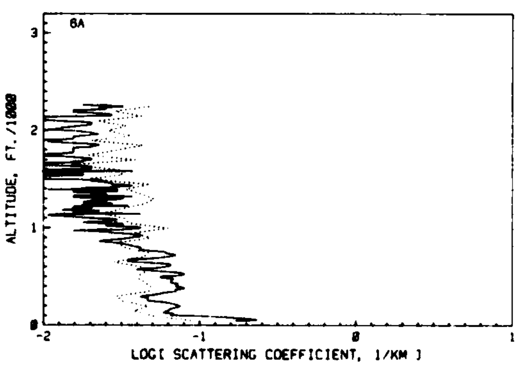


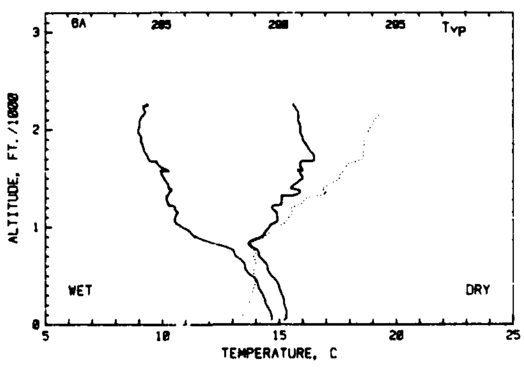
FLIGHT 6A, Oct.22

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	72811	15.2	14.7	94.13	10.0	286.5	3.3	.177	.0013
2	100	72856	15.3	14.7	93.35	10.0	286.8	4.9	.088	.0049
3	150	72941	15.3	14.6	92.68	9.9	286.9	6.4	.063	.0059
4	200	73011	15.2	14.4	92.11	9.8	287.0	7.1	.074	.0069
5	250	73040	15.2	14.4	91.64	9.8	287.1	5.3	.049	.0077
6	300	73116	15.1	14.3	91.53	9.7	287.2	4.8	.044	.0085
7	350	73151	15.0	14.2	91.22	9.6	287.2	4.0	.071	.0096
8	400	73227	15.0	14.1	90.85	9.6	287.3	4.2	.071	.0107
9	450	73250	14.9	14.0	91.37	9.6	287.4	4.0	.066	.0116
10	500	73335	14.7	13.8	91.16	9.5	287.3	2.9	.058	.0126
11	550	73412	14.5	13.6	90.39	9.3	287.3	2.6	.064	.0137
12	600	73453	14.5	13.5	90.02	9.3	287.4	2.5	.059	.0145
13	650	73528	14.3	13.4	90.42	9.2	287.4	2.5	.040	.0152
14	700	73617	14.1	13.2	89.65	9.1	287.4	2.6	.059	.0161
15	750	73645	14.1	13.1	89.04	9.0	287.5	2.8	.061	.0169
16	800	73722	13.8	12.6	87.92	8.7	287.3	2.6	.041	.0176
17	850	73750	13.8	11.9	81.04	8.0	287.4	2.4	.028	.0181
18	900	73826	14.2	11.4	71.54	7.3	288.1	1.9	.036	.0186
19	950	73902	14.4	11.2	67.87	7.0	288.4	.7	.027	.0192
20	1000	73950	14.6	10.9	63.48	6.6	288.7	0.0	.042	.0197
21	1050	74141	14.9	10.6	58.47	6.2	289.2	0.0	.022	.0200
22	1100	74236	14.9	10.6	58.05	6.2	289.4	0.0	.020	.0204
23	1150	74432	14.9	10.7	59.38	6.4	289.5	0.0	.016	.0206
24	1200	74556	14.7	10.5	59.71	6.3	289.4	0.0	.020	.0209
25	1250	74836	15.1	10.2	53.97	5.9	290.0	0.0	.026	.0213
26	1300	75014	15.1	10.2	53.61	5.9	290.1	0.0	.031	.0217
27	1350	75334	15.9	10.3	49.06	5.6	291.1	0.0	.024	.0220
28	1400	75739	15.5	10.3	51.59	5.8	290.8	0.0	.020	.0224
29	1450	75835	15.8	10.2	49.53	5.7	291.2	0.0	.028	.0229
30	1500	80011	16.0	10.1	46.54	5.4	291.6	0.0	.011	.0232
31	1550	80105	15.9	10.0	46.37	5.4	291.7	0.0	.018	.0234
32	1600	80407	16.0	10.1	47.05	5.5	291.9	0.0	.016	.0235
33	1650	80456	15.9	9.8	45.15	5.3	292.0	0.0	.008	.0237
34	1700	80712	16.5	9.4	38.32	4.6	292.8	0.0	.020	.0240
35	1750	80746	16.4	9.3	38.11	4.6	292.8	0.0	.010	.0242
36	1800	80822	16.3	9.2	38.28	4.6	292.8	0.0	.016	.0245
37	1850	80856	16.1	9.2	38.62	4.6	292.8	0.0	.023	.0247
38	1900	80944	16.0	9.1	39.04	4.6	292.9	0.0	.011	.0249
39	1950	81032	15.9	9.0	39.05	4.6	292.9	0.0	.019	.0251
40	2000	81112	15.9	9.0	38.83	4.6	293.0	0.0	.014	.0255
41	2050	81140	15.9	9.0	39.40	4.6	293.2	0.0	.018	.0256
42	2100	81221	15.8	9.1	40.13	4.7	293.3	0.0	.012	.0259
43	2150	81310	15.8	9.2	41.22	4.9	293.4	0.0	.023	.0261
44	2200	81359	15.7	9.2	41.97	4.9	293.5	0.0	.016	.0264
45	2250	81607	15.6	9.4	44.06	5.1	293.5	0.0	.027	.0267



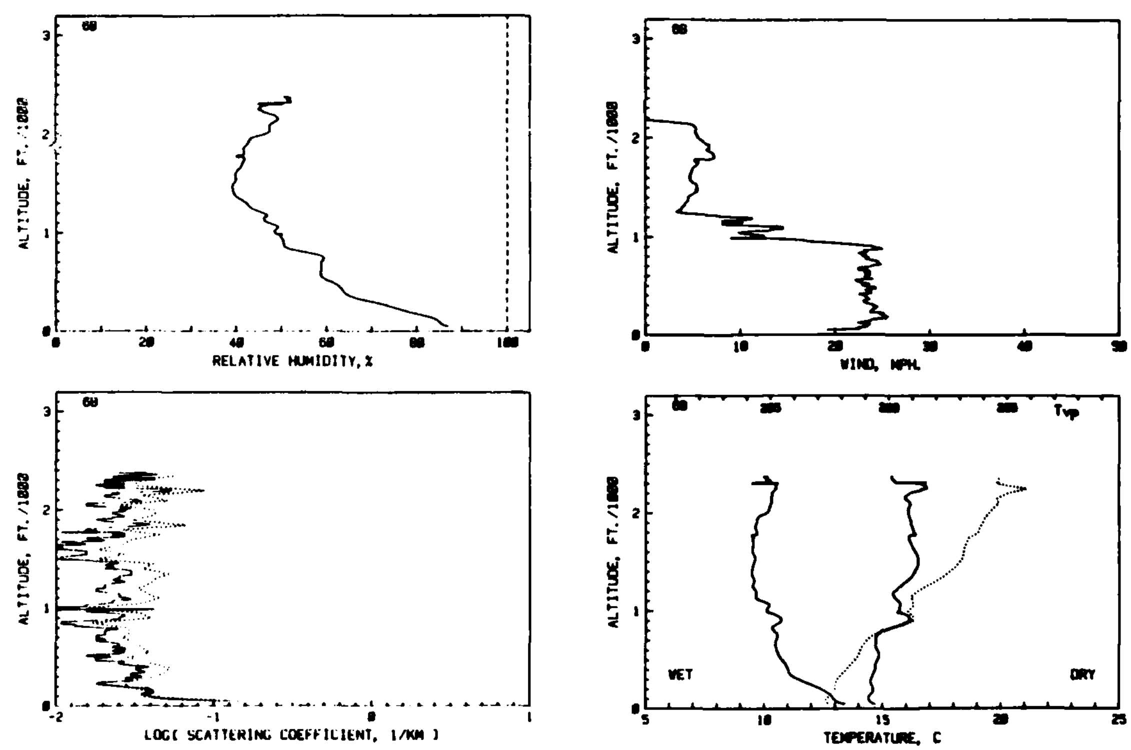






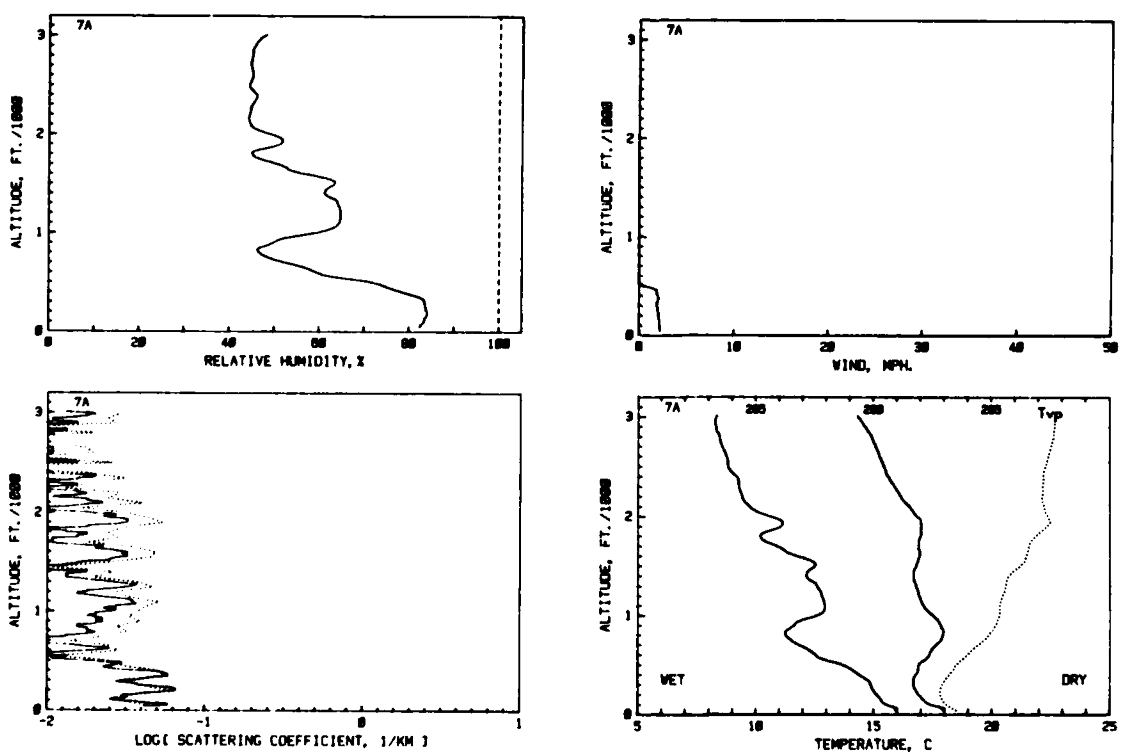
FLIGHT 6B, Oct.22

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
47	2350	82332	15.4	10.1	51.18	5.9	293.6	0.0	.035	.0005
46	2300	82537	16.5	10.5	45.00	5.3	293.7	0.0	.021	.0009
45	2250	83104	16.9	10.5	44.95	5.7	294.8	0.0	.018	.0012
44	2200	83225	16.2	10.3	47.65	5.8	294.0	0.0	.054	.0020
43	2150	83307	15.9	10.3	49.27	5.9	293.5	3.6	.022	.0024
42	2100	83351	16.2	10.3	47.70	5.7	293.6	5.3	.031	.0028
41	2050	83426	16.1	10.2	47.44	5.7	293.4	5.3	.016	.0031
40	2000	83508	16.1	10.1	46.50	5.5	293.2	5.6	.026	.0035
39	1950	83544	16.1	9.7	43.18	5.2	293.1	6.2	.025	.0039
38	1900	83620	16.2	9.7	42.50	5.1	293.1	6.7	.018	.0042
37	1850	83656	16.3	9.6	41.60	5.0	293.0	7.1	.039	.0047
36	1800	83733	16.3	9.7	41.71	5.0	292.9	7.2	.016	.0049
35	1750	84012	16.1	9.5	41.72	4.9	292.5	5.5	.026	.0052
34	1700	84050	16.2	9.5	41.36	4.9	292.4	5.1	.018	.0056
33	1650	84120	16.3	9.5	40.68	4.8	292.3	4.8	.015	.0058
32	1600	84157	16.4	9.5	39.81	4.8	292.3	4.7	.011	.0059
31	1550	84235	16.5	9.6	39.86	4.8	292.3	4.9	.016	.0062
30	1500	84307	16.5	9.6	39.44	4.7	292.2	5.4	.011	.0063
29	1450	84349	16.5	9.5	39.10	4.7	292.0	5.4	.024	.0066
28	1400	84422	16.4	9.5	39.37	4.7	291.7	4.6	.020	.0071
27	1350	84455	16.2	9.5	40.33	4.7	291.4	4.3	.030	.0076
26	1300	84529	16.0	9.6	42.12	4.9	291.1	3.9	.025	.0078
25	1250	84602	15.8	9.5	43.16	4.9	290.7	3.3	.024	.0083
24	1200	84627	15.5	9.7	45.72	5.1	290.3	8.4	.020	.0086
23	1150	84712	15.5	9.6	46.25	5.1	290.0	9.1	.023	.0088
22	1100	84740	15.7	9.9	46.98	5.3	290.1	14.0	.027	.0092
21	1050	84815	15.7	10.2	49.17	5.5	290.0	10.6	.022	.0096
20	1000	84856	15.7	10.1	48.45	5.4	289.8	12.2	.010	.0098
19	950	85108	16.0	10.6	49.85	5.7	290.0	17.8	.022	.0102
18	900	85136	16.1	10.7	50.42	5.8	290.0	23.9	.025	.0106
17	850	85212	15.7	10.4	50.78	5.7	289.4	23.2	.011	.0107
16	800	85239	15.1	10.4	54.87	5.9	288.7	22.9	.019	.0110
15	750	85315	14.7	10.5	59.07	6.2	288.2	24.3	.020	.0113
14	700	85348	14.7	10.5	58.79	6.1	288.0	23.9	.018	.0116
13	650	85421	14.7	10.5	58.82	6.1	287.8	23.5	.022	.0117
12	600	85454	14.8	10.5	58.62	6.1	287.7	23.5	.024	.0122
11	550	85529	14.9	10.6	58.79	6.2	287.7	22.2	.027	.0126
10	500	85611	14.8	10.8	60.76	6.3	287.4	23.0	.020	.0129
9	450	85646	14.7	10.9	62.76	6.5	287.2	23.4	.027	.0133
8	400	85711	14.7	11.0	63.79	6.6	287.0	23.3	.039	.0138
7	350	85745	14.6	11.1	65.40	6.7	286.8	23.2	.036	.0143
6	300	85817	14.5	11.5	69.41	7.1	286.6	24.0	.035	.0148
5	250	85850	14.5	12.0	73.78	7.5	286.4	23.9	.024	.0153
4	200	85914	14.6	12.4	77.45	7.9	286.4	24.9	.026	.0155
3	150	85947	14.5	12.8	81.80	8.3	286.1	23.9	.041	.0161
2	100	90029	14.4	12.9	84.65	8.5	285.9	23.6	.039	.0167
1	50	90103	14.7	13.4	86.40	8.8	285.9	19.5	.141	.0171



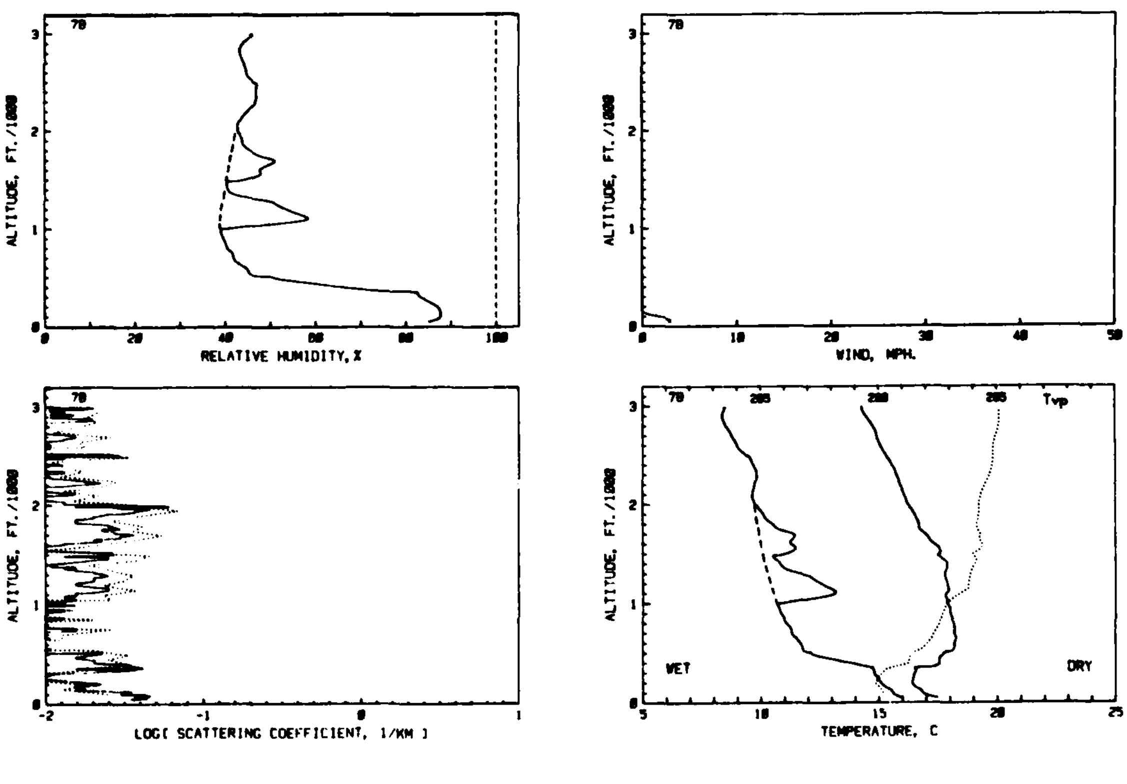
FLIGHT 7A, Oct.22

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	133930	17.9	15.9	82.41	12.0	291.4	2.2	.044	.0003
2	100	134014	17.5	15.6	83.34	11.8	291.1	2.2	.031	.0013
3	150	134049	17.1	15.3	83.77	11.6	290.9	2.1	.031	.0017
4	200	134118	16.9	15.1	84.05	11.5	290.8	2.1	.064	.0024
5	250	134154	16.8	15.0	83.70	11.4	290.9	2.0	.043	.0033
6	300	134221	16.7	14.9	83.55	11.4	290.9	1.9	.032	.0039
7	350	134257	16.7	14.8	82.36	11.2	291.1	2.0	.059	.0046
8	400	134325	16.8	14.4	78.72	10.8	291.3	2.0	.044	.0055
9	450	134401	16.9	14.1	75.24	10.4	291.6	1.9	.025	.0058
10	500	134422	16.9	13.7	71.85	10.0	291.7	.8	.018	.0061
11	550	134504	17.2	13.0	64.15	9.0	292.1	0.0	.008	.0063
12	600	134532	17.4	12.5	59.40	8.5	292.5	0.0	.018	.0065
13	650	134608	17.5	12.3	56.71	8.1	292.7	0.0	.016	.0068
14	700	134644	17.6	11.9	52.49	7.6	293.1	0.0	.008	.0069
15	750	134713	17.9	11.5	48.75	7.2	293.4	0.0	.013	.0071
16	800	134749	17.9	11.3	46.72	6.9	293.6	0.0	.018	.0074
17	850	134816	17.9	11.3	46.90	7.0	293.8	0.0	.016	.0076
18	900	134851	17.8	11.6	49.78	7.4	293.9	0.0	.022	.0080
19	950	134920	17.7	11.9	52.57	7.8	293.9	0.0	.019	.0083
20	1000	134954	17.5	12.6	58.91	8.6	293.8	0.0	.024	.0086
21	1050	135029	17.3	12.9	62.93	9.1	293.8	0.0	.028	.0089
22	1100	135104	17.1	12.9	64.43	9.2	293.7	0.0	.035	.0095
23	1150	135138	17.0	12.9	64.76	9.2	293.8	0.0	.022	.0100
24	1200	135206	16.9	12.8	64.84	9.2	293.8	0.0	.018	.0102
25	1250	135233	16.9	12.8	64.61	9.2	293.9	0.0	.032	.0106
26	1300	135307	16.8	12.6	64.10	9.1	294.0	0.0	.026	.0111
27	1350	135342	16.7	12.4	63.10	8.9	294.1	0.0	.013	.0113
28	1400	135409	16.7	12.2	61.24	8.6	294.2	0.0	.017	.0116
29	1450	135443	16.7	12.2	61.78	8.7	294.4	0.0	.007	.0116
30	1500	135517	16.8	12.5	63.47	9.0	294.6	0.0	.017	.0119
31	1550	135545	16.9	12.4	61.98	8.9	294.8	0.0	.030	.0123
32	1600	135612	16.9	11.8	56.67	8.1	295.1	0.0	.030	.0128
33	1650	135648	16.9	11.3	53.01	7.6	295.2	0.0	.021	.0131
34	1700	135716	16.9	10.9	50.64	7.3	295.3	0.0	.011	.0133
35	1750	135750	16.9	10.4	46.83	6.7	295.5	0.0	.016	.0134
36	1800	135817	17.0	10.2	45.02	6.5	295.7	0.0	.014	.0137
37	1850	135851	17.0	10.5	47.13	6.8	295.9	0.0	.017	.0139
38	1900	135926	17.0	11.1	51.23	7.5	296.0	0.0	.031	.0143
39	1950	135954	17.0	11.1	51.74	7.6	296.2	0.0	.026	.0147
40	2000	140028	16.8	10.6	49.25	7.1	296.2	0.0	.019	.0151
41	2050	140103	16.7	10.0	45.96	6.6	296.1	0.0	.009	.0152
42	2100	140132	16.5	9.7	44.67	6.3	296.1	0.0	.022	.0155
43	2150	140159	16.3	9.5	44.28	6.2	296.1	0.0	.013	.0158
44	2200	140227	16.1	9.4	44.51	6.2	296.1	0.0	.016	.0160
45	2250	140303	16.0	9.3	44.74	6.2	296.1	0.0	.007	.0162
46	2300	140330	15.9	9.3	45.07	6.2	296.1	0.0	.011	.0164
47	2350	140404	15.7	9.3	45.81	6.3	296.1	0.0	.017	.0166
48	2400	140438	15.6	9.2	46.03	6.3	296.1	0.0	.009	.0167
49	2450	140511	15.5	8.9	44.97	6.1	296.2	0.0	.001	.0168
50	2500	140538	15.4	8.8	44.45	6.0	296.2	0.0	.014	.0168
51	2550	140614	15.3	8.8	44.89	6.0	296.3	0.0	.004	.0169
52	2600	140648	15.2	8.7	45.14	6.0	296.3	0.0	.011	.0171
53	2650	140715	15.2	8.7	45.00	6.0	296.4	0.0	.010	.0173
54	2700	140749	15.1	8.5	44.77	5.9	296.5	0.0	.006	.0174
55	2750	140811	15.0	8.5	44.84	5.9	296.5	0.0	.004	.0175
56	2800	140832	14.9	8.4	45.10	5.9	296.6	0.0	.011	.0176
57	2850	140907	14.8	8.3	45.16	5.9	296.6	0.0	.003	.0177
58	2900	140947	14.6	8.3	45.70	5.9	296.6	0.0	.015	.0178
59	2950	141022	14.5	8.2	46.38	6.0	296.6	0.0	.014	.0180
60	3000	141055	14.3	8.3	47.71	6.1	296.6	0.0	.017	.0183



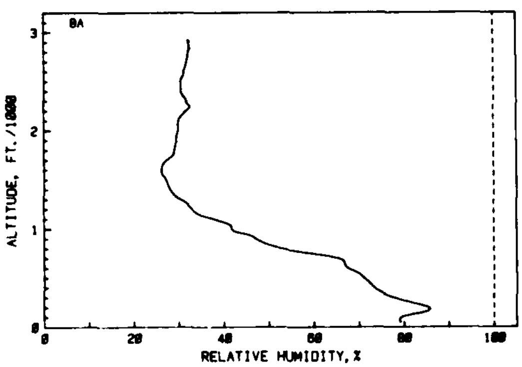
FLIGHT 7B, Oct.22

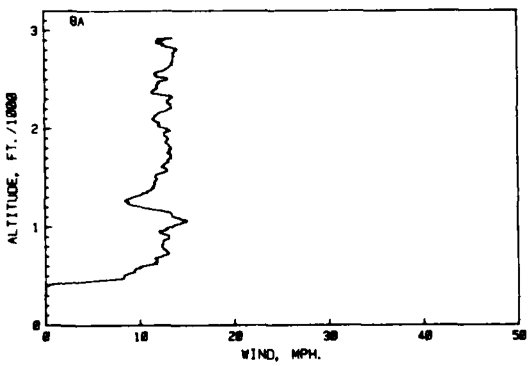
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
59	2950	141349	14.3	8.4	44.45	4.9	294.2	0.0	.013	.0002
58	2900	141424	14.4	8.4	43.52	4.8	294.2	0.0	.011	.0005
57	2850	141506	14.6	8.4	43.17	4.8	294.2	0.0	.013	.0008
56	2800	141538	14.7	8.5	43.34	4.9	294.2	0.0	.009	.0009
55	2750	141558	14.8	8.7	43.78	5.0	294.1	0.0	.007	.0009
54	2700	141626	14.9	8.8	44.31	5.0	294.0	0.0	.016	.0012
53	2650	141652	15.0	8.9	44.66	5.1	294.0	0.0	.010	.0013
52	2600	141720	15.1	9.0	44.91	5.1	293.9	0.0	.011	.0015
51	2550	141754	15.2	9.1	45.87	5.3	293.9	0.0	-.001	.0015
50	2500	141941	15.3	9.4	47.10	5.4	293.9	0.0	.021	.0017
49	2450	142009	15.4	9.6	46.92	5.5	293.8	0.0	.007	.0019
48	2400	142043	15.5	9.7	46.91	5.5	293.8	0.0	.008	.0021
47	2350	142117	15.7	9.8	46.93	5.5	293.8	0.0	.011	.0022
46	2300	142150	15.7	9.8	46.53	5.5	293.7	0.0	.008	.0023
45	2250	142225	15.8	9.8	45.46	5.4	293.6	0.0	.017	.0025
44	2200	142252	15.9	9.7	44.45	5.3	293.6	0.0	.014	.0029
43	2150	142328	16.0	9.7	43.61	5.2	293.5	0.0	.008	.0029
42	2100	142356	16.1	9.7	42.89	5.1	293.4	0.0	.013	.0031
41	2050	142425	16.2	9.7	42.79	5.1	293.4	0.0	.009	.0032
40	2000	142552	16.2	9.7	43.20	5.2	293.3	0.0	.023	.0034
39	1950	142626	16.4	9.9	43.66	5.3	293.3	0.0	.042	.0040
38	1900	142653	16.5	10.1	43.87	5.4	293.3	0.0	.024	.0044
37	1850	142729	16.6	10.2	44.84	5.5	293.2	0.0	.016	.0047
36	1800	142802	16.7	10.5	46.42	5.7	293.1	0.0	.025	.0050
35	1750	142830	16.7	10.8	49.48	6.1	293.1	0.0	.023	.0055
34	1700	142905	17.0	11.4	50.64	6.4	293.2	0.0	.035	.0059
33	1650	142933	17.1	11.4	48.25	6.1	293.2	0.0	.021	.0063
32	1600	143008	17.3	11.3	47.89	6.1	293.3	0.0	.013	.0065
31	1550	143042	17.6	11.5	46.17	6.0	293.3	0.0	.006	.0066
30	1500	143158	17.6	11.1	40.38	5.2	293.1	0.0	.026	.0070
29	1450	143240	17.7	10.6	40.40	5.3	293.2	0.0	.022	.0073
28	1400	143308	17.9	10.8	41.01	5.4	293.1	0.0	.011	.0075
27	1350	143342	17.9	11.0	44.53	5.8	292.9	0.0	.015	.0077
26	1300	143416	17.8	11.7	50.48	6.5	292.7	0.0	.023	.0080
25	1250	143443	17.8	12.2	52.50	6.8	292.6	0.0	.020	.0083
24	1200	143511	17.9	12.6	54.96	7.2	292.5	0.0	.016	.0086
23	1150	143545	17.9	12.9	57.89	7.6	292.4	0.0	.025	.0090
22	1100	143621	17.9	13.1	55.91	7.2	292.2	0.0	.016	.0092
21	1050	143657	17.8	12.2	44.74	5.8	292.1	0.0	.016	.0094
20	1000	143834	17.9	10.7	39.12	5.1	292.0	0.0	-.003	.0095
19	950	143916	18.0	10.8	39.41	5.1	291.9	0.0	.009	.0095
18	900	143943	18.0	10.8	39.90	5.2	291.8	0.0	.004	.0096
17	850	144010	18.1	11.0	40.26	5.2	291.7	0.0	.012	.0097
16	800	144045	18.2	11.1	41.08	5.4	291.6	0.0	.002	.0098
15	750	144119	18.2	11.3	41.78	5.4	291.5	0.0	.015	.0100
14	700	144147	18.2	11.3	42.16	5.5	291.4	0.0	.007	.0102
13	650	144228	18.3	11.5	43.64	5.7	291.2	0.0	.008	.0103
12	600	144301	18.2	11.7	45.05	5.8	291.0	0.0	-.001	.0103
11	550	144337	18.2	11.8	46.04	5.9	290.8	0.0	.010	.0104
10	500	144449	17.8	12.1	53.50	6.7	290.2	0.0	.022	.0106
9	450	144517	17.6	12.8	61.85	7.7	290.0	0.0	.018	.0109
8	400	144553	17.6	13.8	70.84	8.8	289.7	0.0	.028	.0113
7	350	144856	16.6	14.7	82.67	9.6	288.7	0.0	.020	.0117
6	300	144923	16.5	14.8	84.13	9.7	288.4	0.0	.011	.0121
5	250	144952	16.5	14.9	86.07	9.9	288.2	0.0	.010	.0122
4	200	145028	16.4	15.1	87.43	10.1	288.1	0.0	.023	.0125
3	150	145057	16.6	15.3	87.64	10.3	288.3	0.0	.017	.0127
2	100	145134	16.8	15.6	87.00	10.4	288.4	1.8	.033	.0133

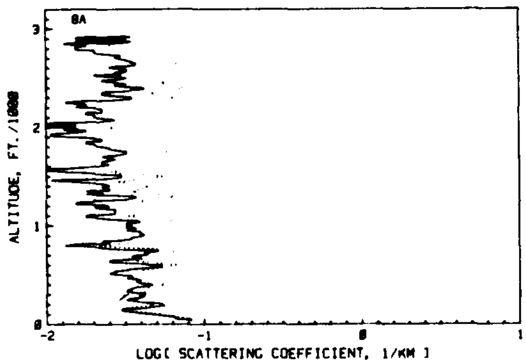


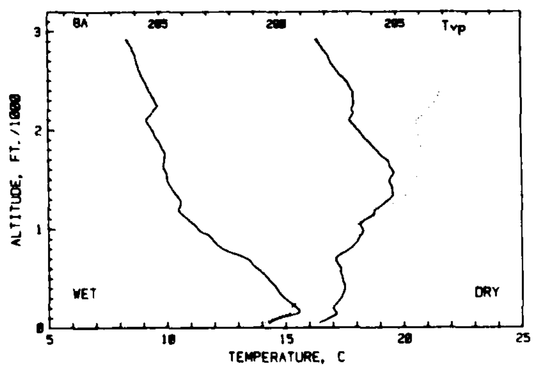
FLIGHT 8A, Oct.23

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	82014	16.4	14.3	79.21	9.0	287.7	0.0	.078	.0004
2	100	82052	16.9	14.7	79.46	9.4	288.3	0.0	.049	.0018
3	150	82130	17.1	15.5	84.49	10.2	288.7	0.0	.031	.0023
4	200	82201	17.0	15.5	85.23	10.2	288.7	0.0	.054	.0032
5	250	82231	17.2	15.2	81.49	9.8	289.0	0.0	.033	.0036
6	300	82308	17.3	14.9	77.62	9.5	289.4	0.0	.040	.0043
7	350	82339	17.4	14.7	75.04	9.2	289.6	0.0	.033	.0048
8	400	82410	17.5	14.6	73.26	9.1	289.8	0.0	.046	.0054
9	450	82441	17.5	14.4	72.21	8.9	289.9	4.6	.039	.0061
10	500	82519	17.4	14.3	70.99	8.8	290.0	8.3	.032	.0067
11	550	82551	17.3	14.0	69.65	8.6	290.1	9.4	.031	.0070
12	600	82630	17.3	13.8	67.45	8.3	290.2	10.2	.050	.0078
13	650	82710	17.2	13.6	66.74	8.2	290.2	11.8	.027	.0082
14	700	82748	17.1	13.4	65.26	8.0	290.3	12.3	.040	.0088
15	750	82818	17.4	12.8	59.04	7.3	290.8	12.9	.044	.0095
16	800	82857	17.8	12.4	52.69	6.7	291.3	12.3	.013	.0098
17	850	82928	18.0	12.1	49.18	6.4	291.6	12.5	.026	.0101
18	900	83000	18.1	11.9	47.08	6.1	291.9	13.1	.041	.0107
19	950	83038	18.2	11.7	44.47	5.9	292.2	12.1	.036	.0112
20	1000	83117	18.3	11.3	41.75	5.5	292.4	13.3	.033	.0118
21	1050	83203	18.2	11.1	40.99	5.4	292.4	14.7	.037	.0123
22	1100	83234	18.4	10.9	37.87	5.1	292.8	13.8	.018	.0125
23	1150	83312	18.8	10.7	34.46	4.7	293.3	13.1	.028	.0130
24	1200	83351	18.9	10.5	32.96	4.5	293.6	10.4	.025	.0133
25	1250	83421	19.1	10.6	32.06	4.5	294.0	8.8	.020	.0135
26	1300	83452	19.4	10.6	30.58	4.4	294.4	9.1	.035	.0141
27	1350	83530	19.5	10.4	28.86	4.2	294.7	10.8	.018	.0145
28	1400	83607	19.5	10.2	28.09	4.1	294.8	11.5	.023	.0148
29	1450	83643	19.5	10.1	27.60	4.0	294.9	11.5	.015	.0151
30	1500	83720	19.4	10.0	27.22	3.9	295.0	11.8	.030	.0155
31	1550	83750	19.6	10.0	26.45	3.9	295.3	12.3	.013	.0158
32	1600	83827	19.5	9.9	26.20	3.8	295.4	12.7	.020	.0160
33	1650	83905	19.4	9.9	26.47	3.8	295.5	12.9	.023	.0163
34	1700	83935	19.3	9.9	27.31	3.9	295.5	13.4	.023	.0168
35	1750	84014	19.0	9.9	28.80	4.1	295.4	13.0	.032	.0172
36	1800	84051	18.8	9.8	29.07	4.1	295.3	13.4	.023	.0176
37	1850	84129	18.7	9.7	29.33	4.1	295.3	12.9	.019	.0179
38	1900	84206	18.5	9.6	29.54	4.1	295.3	13.1	.016	.0182
39	1950	84235	18.3	9.5	29.61	4.0	295.2	12.6	.015	.0184
40	2000	84322	18.1	9.4	29.92	4.0	295.2	13.0	.013	.0186
41	2050	84408	17.9	9.3	29.94	4.0	295.2	12.1	.018	.0187
42	2100	84459	17.8	9.2	30.04	4.0	295.2	11.4	.020	.0192
43	2150	84536	17.9	9.3	30.65	4.1	295.4	12.0	.021	.0194
44	2200	84613	17.8	9.4	31.70	4.2	295.5	13.2	.019	.0198
45	2250	84657	17.9	9.6	32.54	4.4	295.8	13.3	.014	.0200
46	2300	84748	17.9	9.5	31.71	4.3	295.9	13.3	.035	.0205
47	2350	84837	17.9	9.4	31.05	4.2	296.0	12.2	.024	.0209
48	2400	84929	17.8	9.2	30.52	4.1	296.1	11.7	.040	.0215
49	2450	85026	17.7	9.1	30.49	4.1	296.2	11.9	.028	.0220
50	2500	85117	17.6	9.1	30.48	4.1	296.2	12.9	.032	.0224
51	2550	85222	17.4	8.9	30.89	4.1	296.1	11.8	.030	.0228
52	2600	85314	17.2	8.9	31.20	4.1	296.1	12.8	.029	.0232
53	2650	85359	17.1	8.8	31.57	4.1	296.1	13.5	.037	.0238
54	2700	85428	16.9	8.7	31.83	4.1	296.1	13.6	.029	.0244
55	2750	85450	16.8	8.7	32.08	4.1	296.2	13.7	.022	.0247
56	2800	85520	16.7	8.6	32.17	4.1	296.2	14.0	.016	.0249
57	2850	85649	16.6	8.5	32.42	4.1	296.2	12.6	.013	.0251
58	2900	85845	16.4	8.4	32.30	4.0	296.2	12.4	.029	.0255



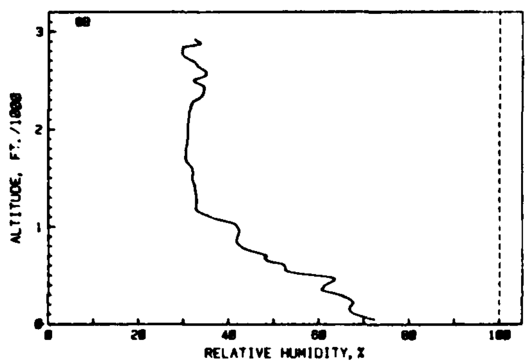


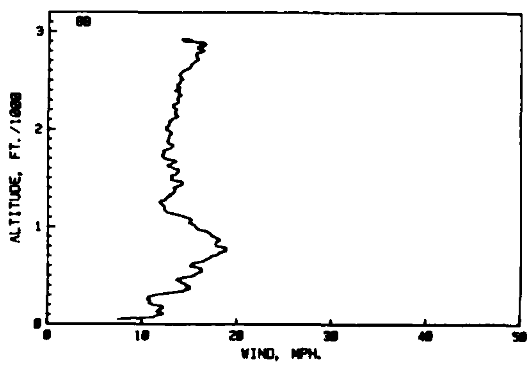


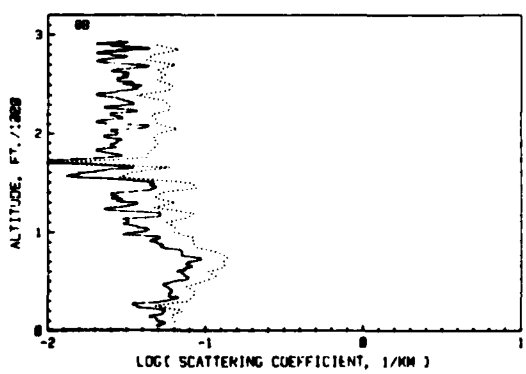


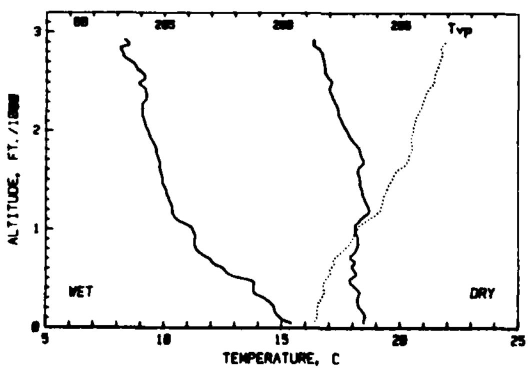
FLIGHT 88, Oct.23

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
58	2900	90243	16.3	8.4	32.71	4.1	296.2	14.7	.027	.0005
57	2850	90501	16.4	8.2	31.88	4.0	296.0	16.2	.037	.0011
56	2800	90645	16.6	8.2	29.54	3.7	296.1	16.2	.025	.0015
55	2750	90745	16.7	8.3	29.71	3.8	296.0	15.5	.023	.0021
54	2700	90815	16.8	8.6	31.56	4.0	295.9	15.6	.035	.0025
53	2650	90844	16.8	8.8	32.86	4.2	295.8	15.0	.028	.0030
52	2600	90921	16.8	9.0	34.26	4.4	295.7	14.3	.031	.0035
51	2550	91011	16.9	9.2	34.96	4.5	295.6	13.8	.028	.0039
50	2500	91054	17.1	8.9	32.42	4.2	295.7	13.9	.034	.0045
49	2450	91136	17.0	9.1	33.69	4.3	295.5	13.6	.033	.0050
48	2400	91221	17.0	9.2	34.46	4.4	295.3	13.6	.020	.0053
47	2350	91307	17.1	9.2	34.21	4.4	295.2	14.0	.030	.0058
46	2300	91353	17.2	9.1	32.89	4.2	295.2	13.7	.033	.0064
45	2250	91440	17.3	9.1	31.69	4.1	295.2	13.1	.032	.0068
44	2200	91517	17.4	9.1	31.46	4.1	295.1	13.6	.025	.0072
43	2150	91554	17.4	9.1	31.24	4.1	295.0	13.5	.027	.0076
42	2100	91624	17.5	9.2	31.21	4.1	294.9	13.1	.027	.0080
41	2050	91703	17.6	9.2	31.05	4.1	294.9	12.8	.036	.0086
40	2000	91748	17.8	9.3	31.03	4.1	294.8	12.5	.028	.0090
39	1950	91826	17.8	9.4	31.00	4.1	294.8	13.1	.026	.0094
38	1900	91905	18.0	9.5	30.92	4.1	294.7	12.8	.028	.0098
37	1850	91938	18.2	9.6	30.81	4.1	294.8	12.9	.026	.0102
36	1800	92011	18.3	9.7	30.56	4.1	294.8	12.8	.024	.0106
35	1750	92043	18.3	9.7	30.52	4.1	294.7	12.3	.023	.0110
34	1700	92125	18.4	9.8	30.50	4.2	294.6	12.4	.006	.0111
33	1650	92158	18.4	9.8	30.87	4.2	294.5	13.1	.033	.0115
32	1600	92240	18.2	9.8	31.75	4.3	294.1	13.3	.018	.0117
31	1550	92313	18.2	9.9	32.09	4.3	294.0	13.6	.016	.0120
30	1500	92345	18.3	9.9	31.97	4.3	293.9	13.1	.045	.0125
29	1450	92416	18.3	10.0	32.15	4.3	293.7	14.2	.049	.0133
28	1400	92455	18.4	10.1	32.55	4.4	293.7	13.3	.029	.0138
27	1350	92524	18.4	10.1	32.60	4.4	293.5	13.3	.027	.0141
26	1300	92607	18.5	10.2	32.83	4.4	293.5	12.5	.036	.0146
25	1250	92645	18.6	10.3	32.88	4.5	293.4	11.8	.026	.0150
24	1200	92714	18.7	10.4	32.75	4.5	293.4	12.3	.047	.0155
23	1150	92744	18.6	10.4	33.27	4.5	293.1	12.6	.042	.0161
22	1100	92816	18.3	10.6	35.66	4.7	292.7	14.6	.032	.0168
21	1050	92853	18.1	11.0	39.50	5.2	292.4	15.0	.037	.0171
20	1000	92937	18.1	11.2	41.80	5.5	292.2	15.7	.037	.0178
19	950	93013	18.1	11.3	42.32	5.5	292.1	16.9	.050	.0186
18	900	93050	18.2	11.3	42.03	5.5	292.0	17.6	.049	.0192
17	850	93120	18.2	11.3	41.75	5.5	291.9	18.0	.052	.0202
16	800	93150	18.2	11.4	42.37	5.5	291.7	18.0	.071	.0210
15	750	93227	18.0	11.6	44.51	5.7	291.4	18.7	.083	.0222
14	700	93304	17.9	11.9	48.05	6.1	291.1	17.3	.080	.0234
13	650	93342	18.1	12.1	48.33	6.2	291.1	16.5	.082	.0246
12	600	93420	18.0	12.5	52.17	6.7	290.9	15.1	.067	.0258
11	550	93450	18.1	12.7	52.53	6.8	290.9	16.2	.076	.0271
10	500	93529	17.9	13.3	57.79	7.4	290.6	15.5	.065	.0281
9	450	93608	17.9	13.8	63.57	8.1	290.3	13.8	.055	.0289
8	400	93631	18.1	13.8	61.71	7.9	290.4	14.7	.061	.0299
7	350	93701	18.3	13.8	60.57	7.8	290.4	14.5	.059	.0308
6	300	93740	18.2	14.3	64.07	8.3	290.2	11.3	.057	.0317
5	250	93810	18.2	14.5	66.74	8.6	290.1	10.8	.037	.0322
4	200	93839	18.3	14.7	67.65	8.7	290.0	11.4	.056	.0332
3	150	93918	18.5	14.7	66.85	8.7	290.0	11.9	.046	.0338
2	100	93948	18.5	15.0	67.73	8.9	290.0	12.0	.050	.0347
1	50	94026	18.5	15.4	71.59	9.3	289.7	7.6	.051	.0353



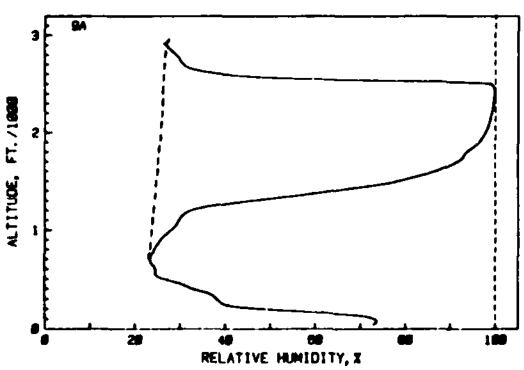


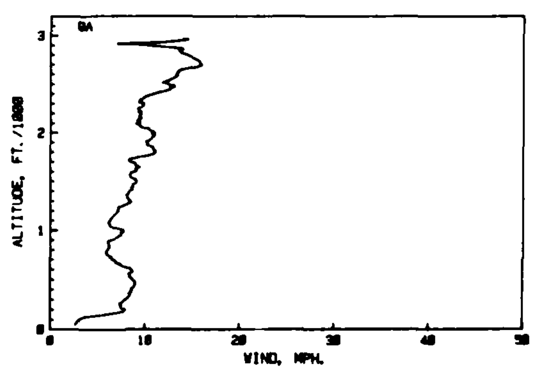


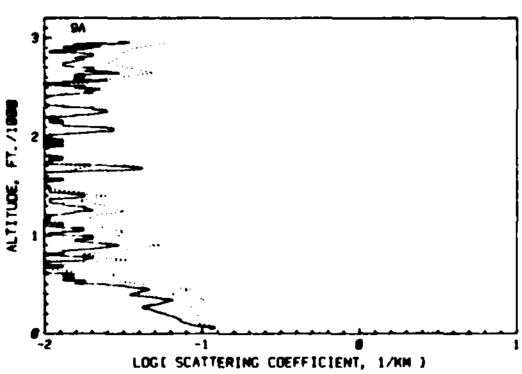


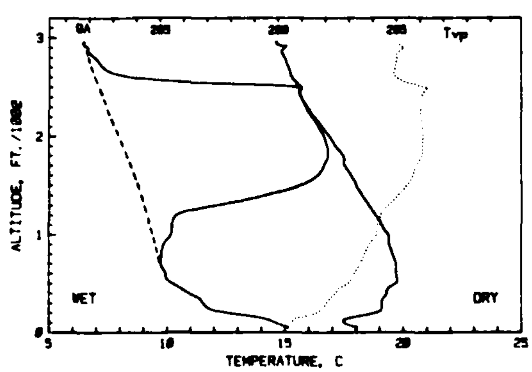
FLIGHT 9A, Oct.23

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	133723	18.1	15.1	72.96	9.2	289.3	2.7	.115	.0010
2	100	133802	17.5	14.6	73.18	9.0	289.0	3.1	.083	.0029
3	150	133834	17.7	14.0	66.64	8.3	289.3	5.5	.071	.0039
4	200	133907	18.8	12.7	48.86	6.5	290.5	7.9	.059	.0049
5	250	133938	19.1	11.8	39.73	5.4	291.0	7.5	.047	.0056
6	300	134009	19.1	11.5	38.09	5.2	291.1	8.0	.052	.0063
7	350	134041	19.1	11.4	36.71	5.0	291.3	8.4	.059	.0073
8	400	134120	19.3	11.0	33.01	4.5	291.6	8.6	.036	.0080
9	450	134152	19.4	10.6	30.31	4.2	291.8	9.0	.047	.0088
10	500	134224	19.7	10.2	26.53	3.7	292.3	8.7	.024	.0092
11	550	134256	19.7	10.0	24.46	3.5	292.5	8.3	.013	.0093
12	600	134334	19.7	10.0	24.59	3.5	292.6	8.6	.015	.0096
13	650	134404	19.7	9.8	23.76	3.4	292.8	7.4	.006	.0096
14	700	134442	19.7	9.7	23.38	3.3	292.9	6.7	.007	.0098
15	750	134513	19.6	9.7	23.76	3.4	293.0	6.0	.018	.0101
16	800	134542	19.5	9.8	24.29	3.4	293.0	6.0	.009	.0103
17	850	134621	19.5	9.8	24.92	3.5	293.1	6.2	.016	.0105
18	900	134646	19.4	9.9	25.70	3.6	293.2	6.4	.029	.0109
19	950	134724	19.4	10.0	26.74	3.8	293.3	7.5	.016	.0112
20	1000	134801	19.4	10.2	28.04	4.0	293.5	7.6	.016	.0115
21	1050	134847	19.2	10.2	29.12	4.1	293.5	6.3	.017	.0118
22	1100	134919	19.1	10.2	29.72	4.1	293.5	6.3	.011	.0120
23	1150	134949	19.0	10.3	30.58	4.2	293.5	6.7	.011	.0121
24	1200	135022	18.8	10.4	32.37	4.4	293.5	7.2	.011	.0122
25	1250	135053	18.7	11.0	37.23	5.1	293.5	7.7	.018	.0124
26	1300	135132	18.5	12.1	45.90	6.2	293.5	8.4	.015	.0127
27	1350	135205	18.4	13.2	55.57	7.5	293.5	8.1	.011	.0128
28	1400	135237	18.2	14.1	63.86	8.6	293.5	8.4	.018	.0131
29	1450	135316	18.1	15.0	72.22	9.7	293.6	8.7	.011	.0133
30	1500	135348	18.0	15.6	78.54	10.5	293.6	9.1	.008	.0135
31	1550	135419	17.9	16.1	83.00	11.0	293.7	8.4	.012	.0136
32	1600	135450	17.8	16.4	86.84	11.5	293.7	9.0	.006	.0137
33	1650	135528	17.6	16.5	89.69	11.8	293.7	9.3	.022	.0139
34	1700	135558	17.5	16.7	91.82	12.0	293.7	8.5	.033	.0146
35	1750	135643	17.5	16.8	93.00	12.1	293.8	9.6	.011	.0148
36	1800	135722	17.5	16.8	93.88	12.2	293.9	11.2	.011	.0150
37	1850	135756	17.3	16.8	95.35	12.3	293.9	10.9	.001	.0149
38	1900	135836	17.1	16.8	96.51	12.4	293.9	10.2	.012	.0151
39	1950	135915	17.0	16.7	97.21	12.4	293.9	10.7	.013	.0153
40	2000	135953	16.9	16.6	97.83	12.4	294.0	11.0	.009	.0154
41	2050	140024	16.7	16.5	98.34	12.4	293.9	9.8	.021	.0156
42	2100	140102	16.6	16.4	98.69	12.3	293.9	9.2	.022	.0160
43	2150	140133	16.4	16.3	98.94	12.2	294.0	9.6	.011	.0162
44	2200	140205	16.2	16.2	99.25	12.2	293.9	9.6	.011	.0164
45	2250	140243	16.1	16.0	99.44	12.1	293.9	9.3	.025	.0167
46	2300	140329	15.9	15.9	99.57	12.0	293.9	9.8	.018	.0170
47	2350	140408	15.8	15.8	99.73	11.9	293.9	9.8	-.001	.0172
48	2400	140440	15.7	15.6	99.88	11.9	293.9	10.9	.009	.0173
49	2450	140503	15.6	15.6	99.70	11.8	294.1	12.6	.019	.0175
50	2500	140542	15.7	15.5	98.59	11.8	294.2	12.4	.017	.0177
51	2550	140651	15.5	11.0	58.93	6.9	294.2	12.8	.013	.0179
52	2600	140732	15.3	8.5	39.65	4.6	294.1	13.4	.017	.0181
53	2650	140809	15.2	7.6	32.98	3.8	294.2	14.2	.027	.0184
54	2700	140841	15.1	7.3	30.76	3.5	294.3	16.0	.019	.0187
55	2750	140856	15.1	7.1	29.94	3.4	294.4	15.5	.014	.0191
56	2800	140921	15.0	6.9	29.15	3.3	294.4	14.4	.016	.0192
57	2850	141015	14.9	6.7	27.96	3.2	294.5	14.0	.017	.0194
58	2900	141127	15.0	6.6	26.93	3.1	294.8	10.3	.020	.0197
59	2950	141417	14.6	6.4	27.50	3.1	294.5	14.0	.032	.0199



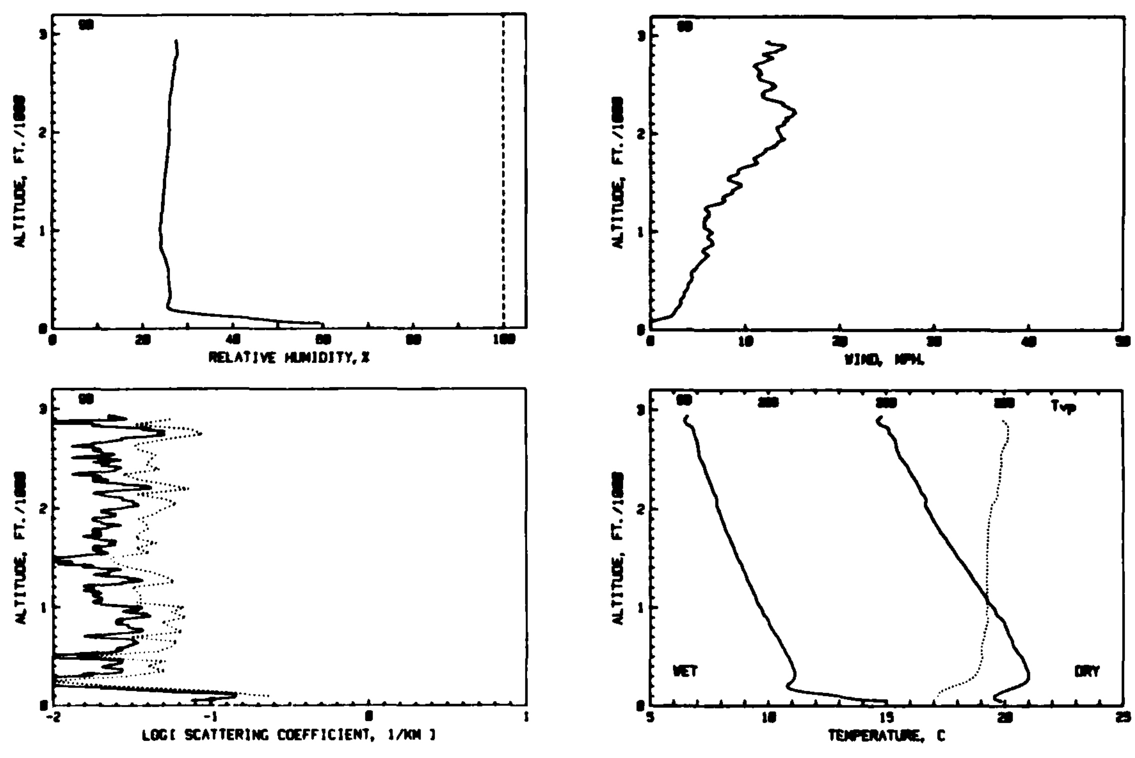






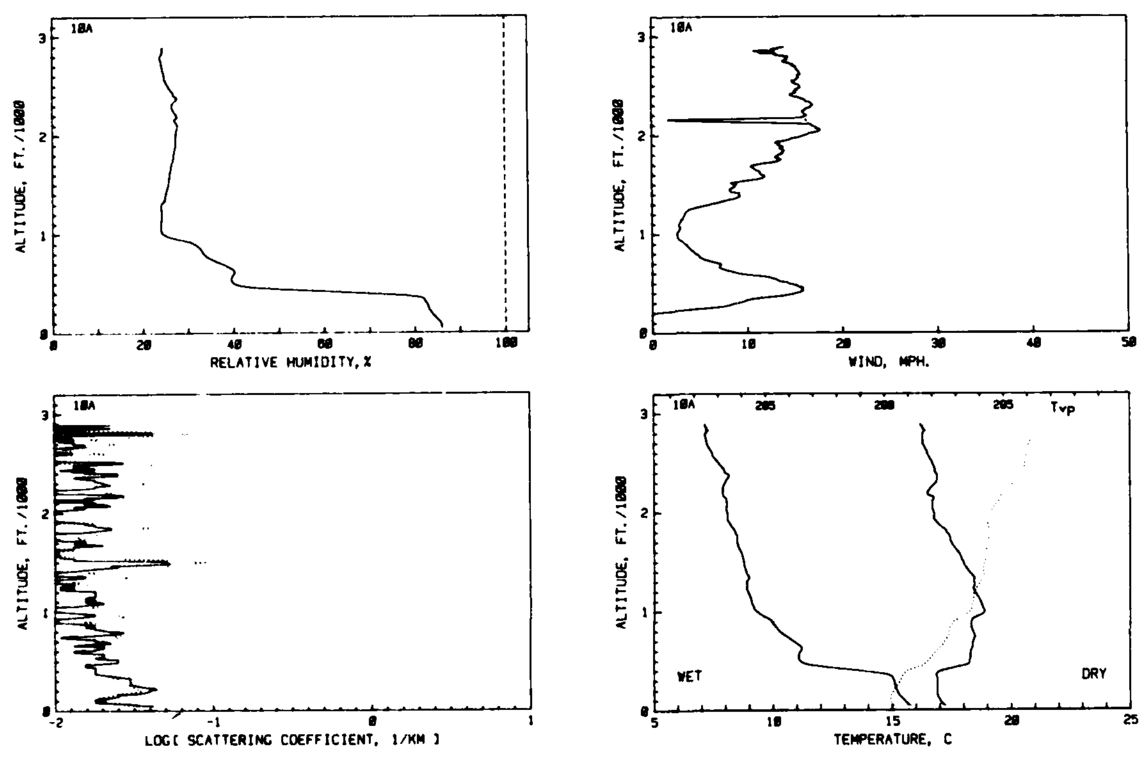
FLIGHT 9B, Oct.23

i	Alt. ft.	Time h m s	Tdry C	Twet C	RH %	W g/Kg	Tpot. K	Wind mph.	bscat. 1/Km	D
58	2900	141628	14.6	6.5	27.53	3.1	294.4	14.1	.030	.0006
57	2850	141740	14.8	6.6	27.65	3.1	294.6	13.5	.018	.0008
56	2800	141835	15.1	6.8	27.68	3.2	294.6	11.9	.041	.0013
55	2750	141907	15.2	6.9	27.27	3.2	294.6	12.4	.048	.0022
54	2700	141930	15.4	7.0	27.17	3.2	294.6	11.0	.028	.0027
53	2650	141959	15.4	7.0	27.24	3.2	294.4	11.5	.018	.0030
52	2600	142030	15.4	7.0	26.98	3.1	294.3	11.7	.019	.0032
51	2550	142110	15.5	7.0	26.80	3.1	294.3	11.5	.024	.0035
50	2500	142212	15.7	7.1	26.67	3.1	294.3	12.9	.022	.0037
49	2450	142251	15.8	7.3	26.52	3.2	294.3	12.8	.021	.0041
48	2400	142322	15.9	7.3	26.31	3.1	294.2	12.0	.025	.0045
47	2350	142353	16.0	7.4	26.18	3.1	294.2	12.5	.015	.0048
46	2300	142433	16.2	7.5	26.08	3.2	294.2	14.1	.018	.0051
45	2250	142519	16.3	7.5	26.03	3.2	294.2	15.0	.028	.0054
44	2200	142559	16.4	7.6	26.02	3.2	294.1	15.1	.039	.0060
43	2150	142631	16.5	7.7	25.99	3.2	294.1	14.6	.018	.0064
42	2100	142704	16.7	7.8	25.91	3.2	294.0	14.2	.028	.0066
41	2050	142736	16.6	7.8	26.04	3.2	293.9	13.4	.032	.0072
40	2000	142808	16.7	7.9	25.94	3.2	293.8	13.6	.026	.0077
39	1950	142848	16.9	8.0	25.93	3.2	293.8	14.1	.024	.0080
38	1900	142927	17.0	8.0	25.91	3.2	293.8	13.4	.019	.0083
37	1850	142958	17.1	8.1	25.72	3.2	293.8	12.5	.021	.0086
36	1800	143031	17.2	8.2	25.56	3.2	293.7	11.9	.022	.0090
35	1750	143105	17.3	8.3	25.49	3.3	293.7	11.0	.019	.0093
34	1700	143145	17.5	8.4	25.36	3.3	293.7	11.3	.018	.0095
33	1650	143216	17.6	8.4	25.28	3.3	293.7	9.7	.024	.0100
32	1600	143257	17.8	8.5	25.13	3.3	293.7	9.3	.018	.0102
31	1550	143321	17.9	8.6	24.99	3.3	293.7	8.3	.022	.0105
30	1500	143353	18.0	8.7	24.86	3.3	293.7	9.0	.012	.0107
29	1450	143427	18.2	8.8	24.82	3.3	293.7	9.3	.013	.0109
28	1400	143509	18.3	8.9	24.65	3.3	293.7	8.7	.016	.0111
27	1350	143541	18.5	9.0	24.59	3.3	293.7	7.6	.023	.0115
26	1300	143622	18.6	9.1	24.48	3.3	293.6	7.7	.028	.0118
25	1250	143653	18.7	9.2	24.39	3.3	293.6	5.9	.031	.0124
24	1200	143724	18.9	9.3	24.35	3.4	293.6	6.1	.017	.0127
23	1150	143757	19.0	9.4	24.27	3.4	293.6	6.1	.018	.0129
22	1100	143828	19.2	9.5	24.19	3.4	293.6	5.6	.019	.0132
21	1050	143900	19.3	9.5	24.01	3.4	293.6	5.7	.018	.0135
20	1000	143947	19.5	9.7	24.02	3.4	293.7	6.4	.036	.0139
19	950	144018	19.6	9.7	24.18	3.5	293.6	6.1	.030	.0144
18	900	144058	19.8	9.9	24.19	3.5	293.7	6.5	.037	.0150
17	850	144129	20.0	10.0	24.07	3.5	293.6	6.3	.026	.0154
16	800	144200	20.0	10.1	24.39	3.6	293.6	5.5	.030	.0158
15	750	144230	20.1	10.2	24.87	3.6	293.5	5.9	.035	.0163
14	700	144301	20.2	10.4	25.20	3.7	293.5	5.4	.017	.0166
13	650	144339	20.3	10.5	25.50	3.8	293.4	5.0	.032	.0171
12	600	144416	20.4	10.6	25.79	3.8	293.3	4.6	.030	.0176
11	550	144448	20.5	10.7	25.79	3.9	293.3	4.3	.025	.0181
10	500	144527	20.7	10.8	25.81	3.9	293.3	4.3	.008	.0182
9	450	144606	20.8	10.9	25.97	3.9	293.3	4.0	.028	.0185
8	400	144636	20.9	11.0	26.06	4.0	293.2	3.8	.021	.0189
7	350	144706	21.0	11.1	26.17	4.0	293.2	3.6	.028	.0193
6	300	144736	21.0	11.1	25.95	4.0	293.0	3.1	.016	.0196
5	250	144807	20.9	11.0	25.52	3.8	292.7	3.1	.005	.0197
4	200	144839	20.6	10.8	27.06	3.9	292.1	2.7	.012	.0198
3	150	144917	20.0	11.3	35.96	5.1	291.4	2.3	.044	.0202
2	100	144948	19.6	12.9	48.73	6.8	291.0	.7	.144	.0227



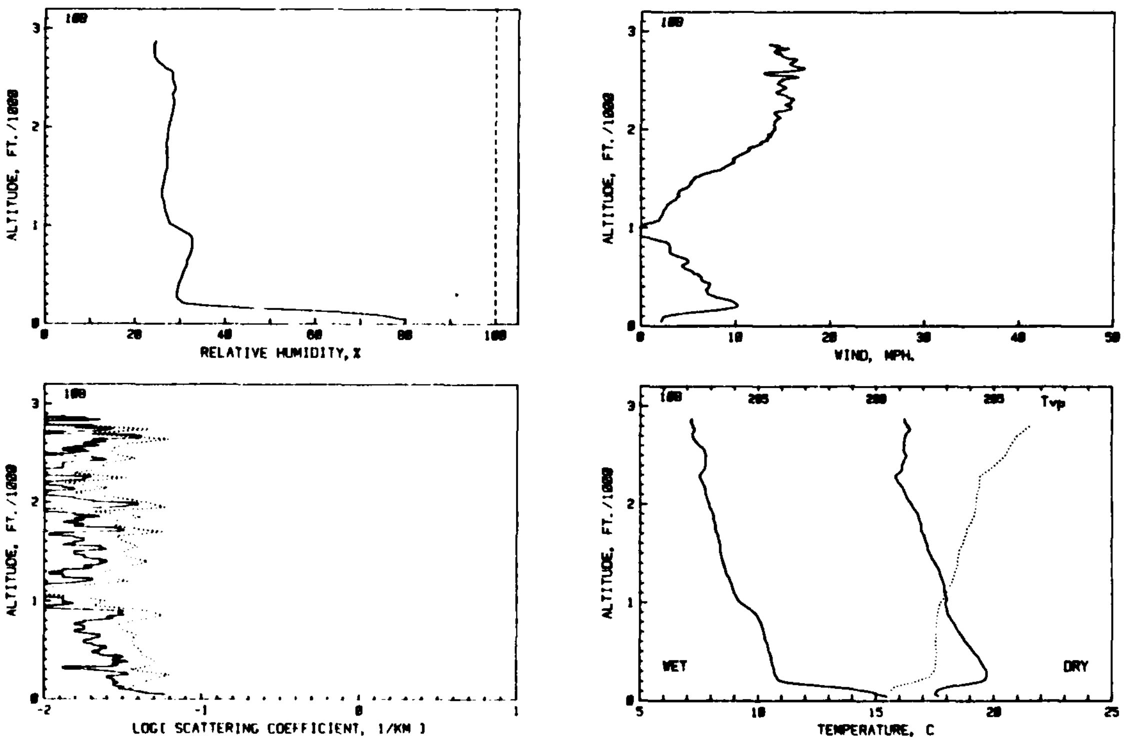
FLIGHT 10A, Oct.24

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	85759	17.2	15.8	85.87	10.3	288.5	0.0	.041	.0004
2	100	85843	17.0	15.5	85.61	10.2	288.5	0.0	.020	.0008
3	150	85919	16.9	15.3	84.61	10.0	288.5	0.0	.025	.0012
4	200	85949	16.9	15.2	83.65	9.9	288.6	.3	.039	.0018
5	250	90019	16.9	15.1	83.02	9.9	288.8	5.8	.033	.0024
6	300	90049	16.9	15.1	82.50	9.8	288.9	8.9	.030	.0028
7	350	90118	16.9	14.9	81.57	9.7	289.1	11.3	.023	.0033
8	400	90157	17.1	13.7	68.43	8.2	289.5	15.0	.018	.0036
9	450	90228	18.0	11.9	47.28	6.0	290.5	15.8	.016	.0038
10	500	90306	18.3	11.2	40.05	5.2	290.9	14.4	.025	.0041
11	550	90343	18.3	11.1	39.54	5.1	291.1	12.7	.020	.0044
12	600	90421	18.3	11.2	40.14	5.2	291.2	9.2	.013	.0046
13	650	90458	18.4	11.2	39.55	5.2	291.5	7.3	.020	.0049
14	700	90536	18.4	10.9	37.33	4.9	291.7	7.1	.020	.0053
15	750	90606	18.5	10.6	34.92	4.6	291.9	5.3	.013	.0054
16	800	90635	18.4	10.3	33.36	4.4	291.9	4.6	.023	.0058
17	850	90713	18.3	10.1	32.67	4.3	292.0	4.0	.016	.0061
18	900	90743	18.3	9.9	31.38	4.1	292.2	3.4	.008	.0063
19	950	90812	18.6	9.6	27.70	3.7	292.6	2.8	.015	.0064
20	1000	90849	18.9	9.3	24.60	3.4	293.0	2.7	.011	.0066
21	1050	90932	18.8	9.2	24.04	3.3	293.1	2.9	.009	.0067
22	1100	91001	18.7	9.1	24.01	3.3	293.1	2.9	.016	.0070
23	1150	91037	18.6	9.0	24.11	3.3	293.2	3.2	.018	.0073
24	1200	91113	18.5	8.9	24.21	3.2	293.2	3.4	.018	.0076
25	1250	91149	18.4	8.9	24.06	3.2	293.3	4.0	.011	.0078
26	1300	91234	18.4	8.9	24.12	3.2	293.4	6.1	.007	.0079
27	1350	91319	18.4	9.0	24.87	3.3	293.6	8.2	.016	.0081
28	1400	91343	18.2	8.9	25.04	3.3	293.5	9.2	.008	.0081
29	1450	91414	18.1	8.8	25.35	3.3	293.5	8.2	.024	.0083
30	1500	91452	18.0	8.8	25.71	3.4	293.6	8.9	.049	.0089
31	1550	91538	17.9	8.7	25.83	3.4	293.7	10.8	.011	.0092
32	1600	91617	17.8	8.6	25.94	3.4	293.7	11.5	.004	.0093
33	1650	91656	17.6	8.6	26.16	3.4	293.7	10.9	.013	.0094
34	1700	91728	17.5	8.5	26.35	3.4	293.7	11.0	.014	.0096
35	1750	91806	17.4	8.5	26.71	3.4	293.8	13.5	.007	.0098
36	1800	91845	17.3	8.4	26.82	3.4	293.8	13.3	.011	.0098
37	1850	91923	17.1	8.3	27.05	3.4	293.7	13.9	.022	.0102
38	1900	92001	16.9	8.2	27.24	3.4	293.7	13.3	.015	.0105
39	1950	92040	16.8	8.1	27.30	3.4	293.7	14.2	-.000	.0104
40	2000	92110	16.8	8.1	27.35	3.4	293.9	16.1	.007	.0105
41	2050	92141	16.7	8.1	27.51	3.4	294.0	17.8	.015	.0107
42	2100	92211	16.7	8.1	27.69	3.4	294.1	16.9	.017	.0110
43	2150	92303	16.8	8.0	26.97	3.4	294.3	2.8	.016	.0111
44	2200	92413	16.5	7.9	27.49	3.4	294.2	16.3	.011	.0114
45	2250	92459	16.7	7.9	26.80	3.3	294.5	16.0	.016	.0115
46	2300	92530	16.9	8.0	26.47	3.3	294.9	16.9	.020	.0118
47	2350	92601	16.9	8.1	27.21	3.4	295.1	16.2	.015	.0120
48	2400	92645	16.8	8.0	26.97	3.4	295.1	14.8	.022	.0123
49	2450	92754	16.8	7.9	26.38	3.3	295.3	15.0	.018	.0125
50	2500	92845	16.7	7.7	25.67	3.2	295.3	15.5	.023	.0129
51	2550	92944	16.6	7.6	25.06	3.1	295.4	14.8	-.003	.0130
52	2600	93028	16.5	7.5	24.84	3.1	295.4	15.4	.011	.0132
53	2650	93105	16.4	7.3	24.54	3.0	295.5	15.4	.006	.0133
54	2700	93140	16.3	7.2	24.30	3.0	295.5	15.2	.013	.0135
55	2750	93231	16.3	7.2	24.11	3.0	295.7	13.8	.009	.0137
56	2800	93352	16.3	7.2	23.90	3.0	295.8	14.2	.042	.0139
57	2850	93600	16.3	7.2	24.33	3.0	296.0	12.4	.005	.0140



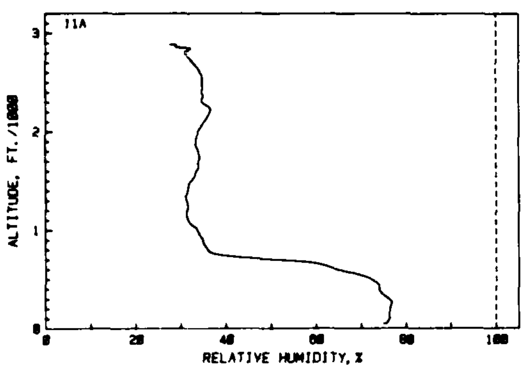
FLIGHT 108, Oct.24

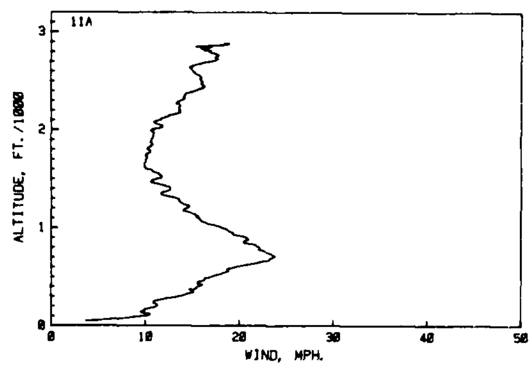
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
56	2800	94456	16.3	7.2	24.18	3.0	295.9	14.3	.005	.0004
55	2750	94551	16.4	7.3	24.30	3.0	295.7	15.0	.025	.0007
54	2700	94654	16.3	7.2	24.88	3.1	295.4	16.2	.011	.0011
53	2650	94742	16.2	7.3	26.16	3.2	295.3	16.3	.033	.0016
52	2600	94852	16.2	7.5	27.86	3.4	295.1	15.5	.018	.0019
51	2550	95001	16.2	7.7	28.28	3.5	295.0	15.9	.015	.0022
50	2500	95104	16.3	7.8	28.32	3.5	294.9	14.7	.014	.0024
49	2450	95142	16.2	7.8	28.71	3.5	294.6	14.9	.021	.0027
48	2400	95220	16.1	7.8	28.79	3.5	294.4	14.6	.013	.0029
47	2350	95259	16.1	7.7	28.27	3.4	294.2	15.4	.013	.0031
46	2300	95340	15.9	7.5	28.55	3.4	293.8	15.8	.008	.0030
45	2250	95418	15.9	7.6	28.50	3.4	293.8	15.4	.018	.0034
44	2200	95457	16.0	7.7	28.34	3.4	293.8	15.2	.007	.0036
43	2150	95521	16.2	7.7	28.09	3.4	293.7	14.3	.014	.0038
42	2100	95559	16.2	7.8	27.87	3.4	293.7	14.2	.008	.0040
41	2050	95632	16.3	7.8	27.69	3.4	293.7	14.1	.015	.0041
40	2000	95710	16.5	7.9	27.42	3.4	293.6	14.2	.024	.0044
39	1950	95750	16.6	8.0	27.32	3.4	293.6	13.5	.031	.0051
38	1900	95821	16.8	8.1	27.23	3.4	293.6	13.4	.011	.0052
37	1850	95859	16.8	8.1	26.99	3.3	293.5	12.6	.022	.0054
36	1800	95930	16.9	8.2	27.09	3.4	293.4	11.4	.015	.0057
35	1750	100000	16.9	8.2	27.04	3.4	293.3	10.8	.016	.0060
34	1700	100045	17.0	8.2	27.17	3.4	293.2	9.8	.030	.0064
33	1650	100122	17.1	8.3	27.09	3.4	293.2	9.5	.016	.0066
32	1600	100152	17.1	8.4	27.11	3.4	293.1	8.6	.017	.0069
31	1550	100234	17.2	8.4	26.75	3.4	293.0	6.7	.021	.0070
30	1500	100305	17.3	8.4	26.53	3.4	292.9	5.6	.017	.0074
29	1450	100335	17.4	8.5	26.30	3.3	292.9	5.2	.018	.0077
28	1400	100420	17.5	8.5	26.06	3.3	292.9	4.5	.024	.0080
27	1350	100448	17.6	8.6	25.90	3.3	292.8	3.9	.018	.0084
26	1300	100525	17.7	8.6	26.04	3.4	292.7	3.7	.013	.0086
25	1250	100606	17.8	8.8	26.41	3.4	292.7	2.9	.013	.0088
24	1200	100634	17.9	8.9	26.55	3.4	292.6	2.6	.018	.0091
23	1150	100710	17.9	8.9	26.84	3.5	292.5	2.3	.008	.0092
22	1100	100746	17.9	9.0	27.18	3.5	292.4	2.0	.001	.0093
21	1050	100816	18.0	9.1	27.59	3.6	292.3	1.0	.009	.0094
20	1000	100853	18.0	9.2	29.42	3.8	292.1	0.0	.013	.0095
19	950	100923	18.0	9.5	31.20	4.0	292.0	0.0	.011	.0098
18	900	101007	18.0	9.8	32.65	4.2	291.9	.5	.026	.0101
17	850	101037	18.1	10.0	32.81	4.3	291.8	2.7	.031	.0106
16	800	101108	18.2	10.1	32.82	4.3	291.8	3.1	.022	.0110
15	750	101140	18.4	10.2	32.54	4.3	291.8	3.1	.016	.0112
14	700	101213	18.5	10.2	32.08	4.3	291.8	4.1	.017	.0115
13	650	101246	18.6	10.3	31.70	4.2	291.8	5.1	.021	.0117
12	600	101326	18.8	10.4	31.47	4.3	291.8	4.4	.020	.0120
11	550	101358	19.0	10.4	30.89	4.2	291.8	5.4	.020	.0123
10	500	101438	19.1	10.5	30.52	4.2	291.8	6.3	.023	.0127
9	450	101509	19.3	10.6	30.00	4.2	291.8	6.7	.023	.0130
8	400	101540	19.4	10.6	29.69	4.1	291.8	7.2	.028	.0136
7	350	101617	19.6	10.6	29.41	4.1	291.8	7.1	.028	.0139
6	300	101648	19.7	10.7	29.30	4.1	291.7	7.8	.019	.0140
5	250	101719	19.7	10.8	30.27	4.2	291.5	9.7	.034	.0145
4	200	101757	19.5	11.0	39.10	5.2	290.8	10.2	.028	.0150
3	150	101821	18.3	12.8	63.48	7.9	289.4	6.4	.028	.0154
2	100	101901	17.6	14.6	76.34	9.4	289.0	2.6	.032	.0158

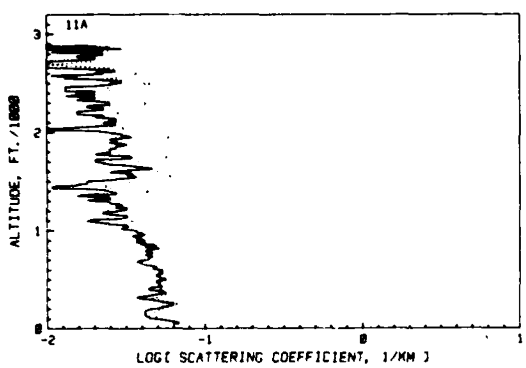


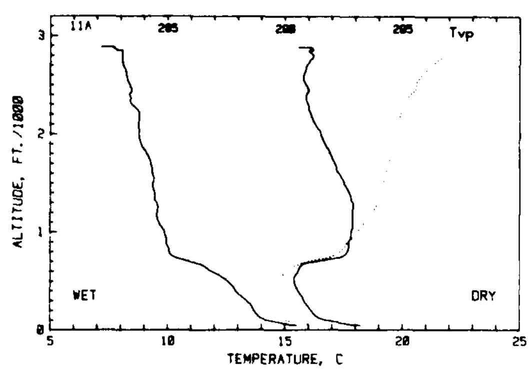
FLIGHT 11A, Oct.24

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	140848	18.1	15.4	75.19	9.6	289.8	3.9	.065	.0006
2	100	140951	16.8	14.3	76.32	9.0	288.6	9.9	.047	.0018
3	150	141022	16.3	13.8	76.28	8.7	288.2	9.8	.042	.0024
4	200	141054	16.1	13.7	76.44	8.6	288.2	11.3	.048	.0031
5	250	141125	16.0	13.6	76.80	8.6	288.2	11.0	.063	.0039
6	300	141157	15.8	13.4	76.17	8.5	288.2	13.7	.041	.0047
7	350	141227	15.7	13.1	74.77	8.3	288.2	15.1	.051	.0053
8	400	141305	15.6	12.9	74.06	8.1	288.2	15.6	.044	.0060
9	450	141336	15.4	12.8	73.75	8.0	288.3	15.7	.051	.0069
10	500	141415	15.4	12.6	72.20	7.9	288.4	17.0	.056	.0076
11	550	141453	15.4	12.3	69.21	7.6	288.5	18.6	.050	.0084
12	600	141532	15.5	11.9	64.66	7.1	288.8	19.6	.051	.0093
13	650	141603	15.7	11.6	61.07	6.8	289.1	22.3	.042	.0100
14	700	141642	16.4	11.0	50.89	5.9	289.9	23.6	.042	.0107
15	750	141713	17.4	10.3	38.66	4.8	291.1	22.9	.042	.0114
16	800	141737	17.7	10.1	35.97	4.6	291.5	22.1	.044	.0121
17	850	141824	17.7	10.0	35.26	4.5	291.7	20.5	.044	.0127
18	900	141903	17.7	10.0	34.90	4.5	291.9	20.7	.040	.0134
19	950	141948	17.8	9.9	34.22	4.4	292.1	19.3	.040	.0138
20	1000	142018	17.8	9.9	33.76	4.3	292.3	18.2	.036	.0145
21	1050	142057	17.9	9.8	32.61	4.2	292.5	16.5	.032	.0149
22	1100	142134	17.9	9.6	31.74	4.1	292.7	15.7	.019	.0152
23	1150	142204	17.9	9.6	31.35	4.1	292.8	15.0	.032	.0156
24	1200	142249	17.9	9.5	31.44	4.1	292.9	14.5	.028	.0160
25	1250	142328	17.9	9.6	31.55	4.1	293.1	13.9	.028	.0165
26	1300	142406	17.9	9.5	31.28	4.1	293.2	13.3	.020	.0169
27	1350	142459	17.8	9.4	31.14	4.1	293.3	11.7	.017	.0172
28	1400	142535	17.7	9.4	31.54	4.1	293.4	12.6	.025	.0177
29	1450	142605	17.6	9.4	31.72	4.1	293.4	11.2	.012	.0178
30	1500	142657	17.5	9.4	32.30	4.1	293.4	11.3	.019	.0181
31	1550	142733	17.4	9.4	33.12	4.2	293.5	11.4	.036	.0187
32	1600	142810	17.3	9.3	33.41	4.2	293.5	10.2	.027	.0191
33	1650	142909	17.2	9.3	33.91	4.3	293.6	9.9	.036	.0198
34	1700	142939	17.1	9.3	33.97	4.3	293.7	10.1	.020	.0201
35	1750	143023	17.0	9.2	34.14	4.3	293.7	10.2	.033	.0206
36	1800	143113	16.9	9.1	33.90	4.2	293.8	10.2	.025	.0210
37	1850	143156	16.8	9.0	33.44	4.2	293.8	10.8	.028	.0214
38	1900	143234	16.7	8.9	33.43	4.1	293.9	10.7	.026	.0218
39	1950	143312	16.6	8.8	33.58	4.1	293.9	10.9	.034	.0222
40	2000	143356	16.5	8.8	33.78	4.1	293.9	10.8	.024	.0226
41	2050	143447	16.4	8.8	34.44	4.2	294.0	11.5	.016	.0229
42	2100	143525	16.3	8.8	35.14	4.3	294.0	11.6	.024	.0232
43	2150	143608	16.2	8.8	35.92	4.3	294.1	12.7	.022	.0237
44	2200	143646	16.1	8.8	36.48	4.4	294.1	13.7	.016	.0240
45	2250	143723	16.0	8.7	36.29	4.4	294.2	13.7	.021	.0243
46	2300	143808	16.0	8.5	34.80	4.2	294.3	13.8	.025	.0247
47	2350	143848	15.9	8.4	34.92	4.2	294.4	14.2	.020	.0249
48	2400	143920	15.9	8.4	34.66	4.2	294.5	15.2	.016	.0251
49	2450	144014	16.0	8.5	34.85	4.2	294.8	16.3	.013	.0252
50	2500	144052	15.9	8.4	34.84	4.2	294.9	16.0	.027	.0257
51	2550	144136	15.8	8.3	34.77	4.2	294.9	15.9	.014	.0260
52	2600	144220	15.8	8.2	34.40	4.1	295.1	15.1	.021	.0262
53	2650	144258	15.9	8.2	33.78	4.1	295.3	15.0	.016	.0266
54	2700	144339	15.9	8.1	32.79	4.0	295.5	17.0	.006	.0267
55	2750	144432	16.0	8.1	31.78	3.9	295.8	17.6	.020	.0269
56	2800	144527	16.2	8.1	31.00	3.8	296.1	16.9	.022	.0273
57	2850	144748	16.0	8.0	31.82	3.9	296.0	16.1	.011	.0274



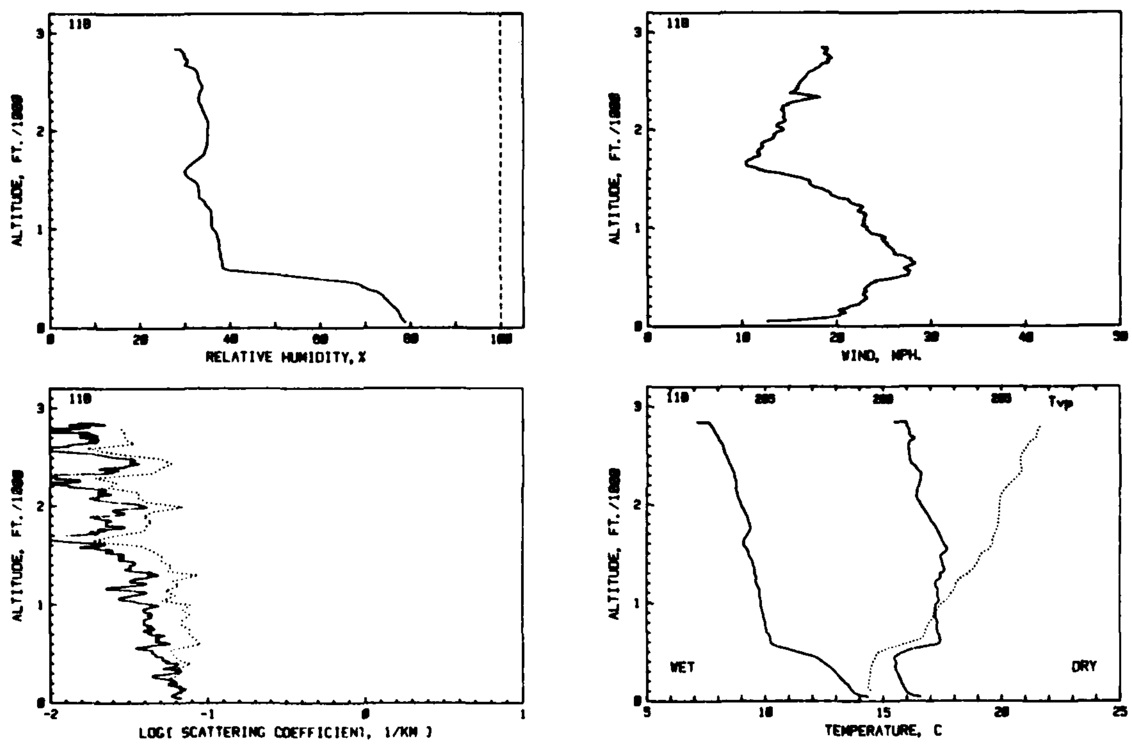






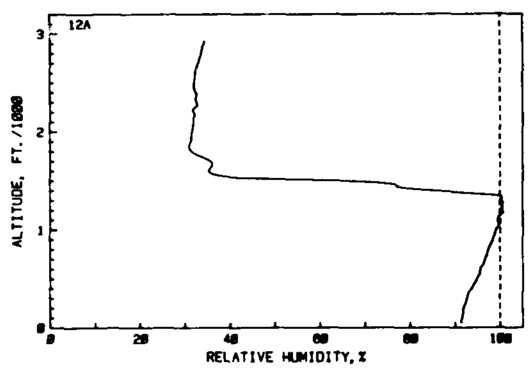
FLIGHT 11B, Oct.24

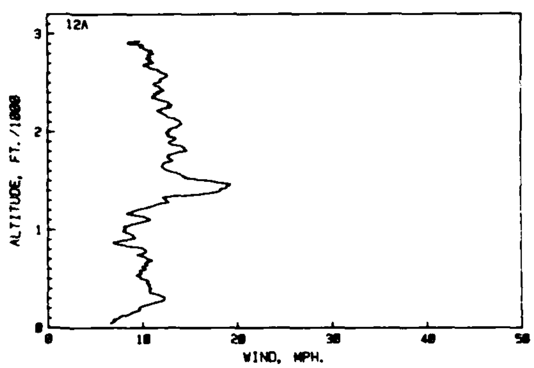
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
56	2800	145336	16.0	7.7	29.90	3.7	296.0	18.9	.016	.0004
55	2750	145450	16.1	7.9	30.71	3.8	295.8	19.3	.017	.0006
54	2700	145552	16.2	8.0	30.69	3.8	295.8	19.1	.016	.0009
53	2650	145632	16.2	8.1	32.61	4.0	295.5	18.2	.019	.0012
52	2600	145655	16.1	8.2	32.97	4.0	295.4	17.2	.010	.0014
51	2550	145719	16.1	8.3	33.24	4.1	295.2	16.8	.015	.0015
50	2500	145749	16.1	8.3	33.85	4.1	295.1	16.3	.028	.0019
49	2450	145819	16.1	8.4	33.69	4.1	295.1	16.0	.033	.0025
48	2400	145859	16.3	8.5	33.34	4.1	295.1	15.6	.028	.0028
47	2350	145947	16.5	8.6	32.90	4.1	295.1	17.2	.025	.0032
46	2300	150018	16.6	8.7	33.48	4.2	294.9	16.2	.011	.0034
45	2250	150058	16.6	8.7	33.87	4.2	294.7	14.7	.015	.0036
44	2200	150128	16.5	8.8	34.35	4.2	294.5	14.1	.013	.0037
43	2150	150205	16.4	8.8	34.82	4.3	294.3	14.4	.021	.0041
42	2100	150243	16.4	8.8	35.12	4.3	294.2	14.5	.020	.0044
41	2050	150313	16.5	8.9	34.98	4.3	294.2	13.7	.023	.0047
40	2000	150357	16.6	9.0	34.98	4.3	294.1	14.4	.039	.0053
39	1950	150434	16.7	9.1	34.97	4.4	294.1	13.3	.025	.0057
38	1900	150512	16.9	9.2	34.86	4.4	294.1	13.0	.022	.0061
37	1850	150548	17.0	9.3	34.53	4.4	294.1	12.0	.025	.0065
36	1800	150626	17.1	9.4	34.19	4.4	294.1	11.8	.023	.0069
35	1750	150710	17.3	9.4	32.96	4.2	294.0	11.8	.022	.0071
34	1700	150732	17.4	9.3	31.48	4.1	294.0	11.0	.014	.0074
33	1650	150801	17.5	9.1	30.37	3.9	293.9	10.4	.010	.0075
32	1600	150852	17.6	9.1	30.19	3.9	293.9	11.6	.021	.0078
31	1550	150946	17.7	9.2	31.23	4.0	293.7	14.2	.025	.0081
30	1500	151026	17.5	9.3	32.72	4.2	293.4	16.6	.029	.0086
29	1450	151058	17.4	9.4	33.08	4.2	293.3	17.1	.028	.0090
28	1400	151136	17.5	9.5	33.20	4.3	293.2	18.4	.033	.0095
27	1350	151214	17.6	9.6	33.35	4.3	293.0	19.4	.031	.0100
26	1300	151301	17.4	9.5	34.53	4.4	292.8	20.8	.049	.0106
25	1250	151340	17.4	9.6	35.38	4.4	292.4	21.7	.034	.0112
24	1200	151418	17.2	9.6	35.96	4.5	292.3	22.6	.037	.0118
23	1150	151457	17.3	9.7	36.00	4.5	292.2	23.0	.031	.0120
22	1100	151527	17.3	9.8	35.96	4.5	292.1	23.0	.035	.0128
21	1050	151559	17.3	9.8	36.09	4.5	292.0	22.9	.029	.0131
20	1000	151638	17.3	9.8	36.90	4.6	291.7	23.3	.045	.0138
19	950	151708	17.2	9.8	37.28	4.6	291.5	23.6	.039	.0146
18	900	151801	17.2	9.9	37.60	4.6	291.4	25.2	.044	.0151
17	850	151838	17.2	10.0	37.62	4.7	291.3	25.2	.040	.0158
16	800	151925	17.3	10.0	37.87	4.7	291.1	25.8	.039	.0163
15	750	151955	17.3	10.0	38.01	4.7	291.0	26.1	.044	.0173
14	700	152034	17.3	10.1	38.33	4.7	290.9	27.3	.044	.0180
13	650	152104	17.4	10.2	38.41	4.8	290.8	28.1	.048	.0188
12	600	152143	17.4	10.2	43.91	5.2	290.1	27.6	.034	.0195
11	550	152215	16.6	10.7	55.83	6.3	289.1	27.7	.039	.0202
10	500	152254	15.8	11.4	66.04	7.2	288.5	26.7	.046	.0208
9	450	152325	15.5	12.1	69.37	7.6	288.3	24.1	.051	.0217
8	400	152412	15.5	12.4	72.32	7.9	288.2	23.2	.065	.0223
7	350	152442	15.5	12.7	73.96	8.1	288.1	23.1	.054	.0237
6	300	152513	15.6	12.9	74.99	8.3	288.0	23.2	.058	.0246
5	250	152544	15.7	13.1	76.09	8.4	288.0	22.6	.052	.0253
4	200	152622	15.8	13.4	77.29	8.6	287.9	21.4	.058	.0262
3	150	152646	15.9	13.6	77.73	8.7	287.9	20.8	.066	.0274
2	100	152724	16.0	13.7	78.61	8.9	288.0	19.9	.064	.0282

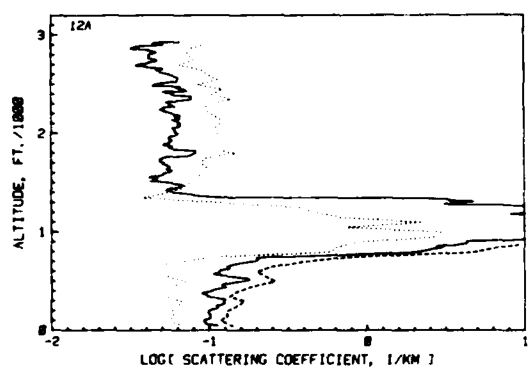


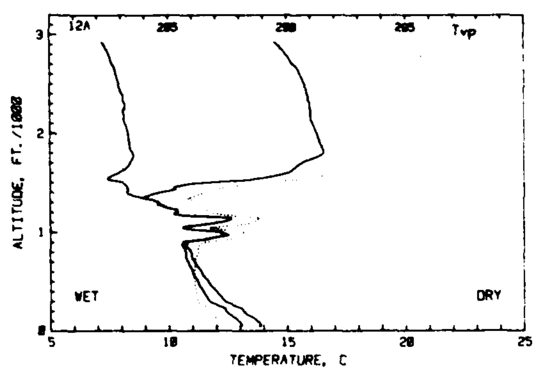
FLIGHT 12A, Oct.24

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	202850	13.8	13.0	91.37	8.9	285.5	6.6	.112	.0009
2	100	202930	13.7	12.9	91.57	8.9	285.6	7.5	.093	.0029
3	150	203001	13.4	12.7	91.81	8.7	285.5	8.8	.102	.0045
4	200	203033	13.2	12.4	91.92	8.6	285.3	9.6	.100	.0062
5	250	203106	12.9	12.2	92.39	8.5	285.2	11.0	.113	.0077
6	300	203137	12.4	11.7	92.73	8.2	284.8	12.3	.123	.0099
7	350	203208	12.2	11.6	93.05	8.2	284.8	11.1	.097	.0111
8	400	203242	12.0	11.4	93.72	8.2	284.8	10.9	.104	.0124
9	450	203321	11.8	11.3	94.32	8.1	284.7	10.6	.123	.0145
10	500	203353	11.7	11.2	94.91	8.1	284.7	9.9	.163	.0162
11	550	203433	11.5	11.1	95.47	8.1	284.7	9.7	.134	.0190
12	600	203505	11.4	11.0	95.66	8.1	284.7	10.4	.117	.0208
13	650	203537	11.2	10.9	96.34	8.0	284.7	10.5	.132	.0227
14	700	203610	11.1	10.8	96.76	8.0	284.7	10.6	.195	.0251
15	750	203643	11.0	10.7	97.14	8.0	284.8	9.7	.369	.0279
16	800	203707	11.0	10.7	97.45	8.0	284.9	10.2	2.142	.0454
17	850	203747	10.8	10.6	98.05	8.0	284.8	7.3	2.779	.0807
18	900	203827	10.7	10.6	98.47	8.0	285.0	8.4	4.313	.1457
19	950	203900	12.1	12.0	98.79	8.9	286.5	8.9	16.428	.4186
20	1000	203931	12.2	12.2	99.11	9.0	286.8	8.1	20.925	.7032
21	1050	204013	10.6	10.6	99.67	8.1	285.3	8.7	10.234	.7981
22	1100	204038	12.1	12.1	99.47	9.0	287.0	10.7	22.623	1.1848
23	1150	204109	12.3	12.3	100.18	9.2	287.3	9.2	20.799	1.4772
24	1200	204200	10.3	10.3	100.41	8.1	285.4	9.3	14.195	1.6463
25	1250	204225	9.9	10.0	100.58	7.9	285.2	11.3	11.467	1.9035
26	1300	204307	9.6	9.6	100.24	7.7	285.0	12.5	3.821	1.9549
27	1350	204349	9.0	8.9	98.80	7.3	284.6	14.5	.224	2.0046
28	1400	204430	9.6	8.3	84.21	6.5	285.3	18.2	.063	2.0060
29	1450	204511	10.2	8.2	77.10	6.2	286.1	19.1	.063	2.0070
30	1500	204545	11.4	8.1	64.52	5.6	287.5	17.0	.056	2.0079
31	1550	204649	14.0	7.5	38.17	3.9	290.2	14.2	.045	2.0087
32	1600	204721	15.0	7.9	35.30	3.9	291.4	12.7	.055	2.0094
33	1650	204754	15.3	8.2	35.94	4.0	291.9	12.0	.056	2.0103
34	1700	204826	15.6	8.4	35.73	4.1	292.3	13.1	.051	2.0111
35	1750	204857	16.2	8.5	33.59	4.0	293.0	12.7	.052	2.0119
36	1800	204930	16.5	8.5	31.57	3.9	293.6	14.2	.083	2.0133
37	1850	205002	16.5	8.4	30.93	3.8	293.7	14.3	.057	2.0140
38	1900	205041	16.4	8.4	31.30	3.8	293.7	12.9	.056	2.0147
39	1950	205126	16.3	8.3	31.49	3.8	293.8	12.9	.056	2.0157
40	2000	205205	16.3	8.3	31.69	3.8	293.9	12.7	.063	2.0168
41	2050	205236	16.2	8.3	31.91	3.8	293.9	13.7	.060	2.0177
42	2100	205307	16.1	8.2	31.90	3.8	294.0	14.0	.065	2.0186
43	2150	205345	16.0	8.1	32.00	3.8	294.1	12.7	.065	2.0194
44	2200	205432	16.0	8.1	31.99	3.8	294.2	11.8	.058	2.0205
45	2250	205519	16.0	8.2	32.31	3.9	294.4	13.0	.051	2.0211
46	2300	205613	16.0	8.2	32.65	3.9	294.5	12.7	.056	2.0221
47	2350	205659	15.9	8.1	32.50	3.9	294.6	11.0	.078	2.0233
48	2400	205745	15.9	8.0	32.47	3.9	294.7	11.7	.059	2.0241
49	2450	203824	15.8	8.0	32.13	3.8	294.8	11.9	.068	2.0251
50	2500	205903	15.7	7.9	32.15	3.8	294.9	11.5	.048	2.0259
51	2550	205928	15.7	7.8	32.28	3.8	294.9	12.3	.063	2.0274
52	2600	205944	15.5	7.8	32.39	3.8	295.0	12.2	.055	2.0280
53	2650	210015	15.5	7.7	32.55	3.8	295.0	10.8	.050	2.0286
54	2700	210111	15.3	7.6	32.93	3.8	295.0	10.9	.037	2.0290
55	2750	210159	15.1	7.6	33.29	3.8	295.0	10.4	.045	2.0298
56	2800	210239	15.0	7.5	33.62	3.9	295.0	11.1	.042	2.0305
57	2850	210327	14.8	7.4	33.91	3.9	295.0	10.2	.040	2.0310
58	2900	210445	14.6	7.3	34.18	3.8	294.9	9.1	.051	2.0315



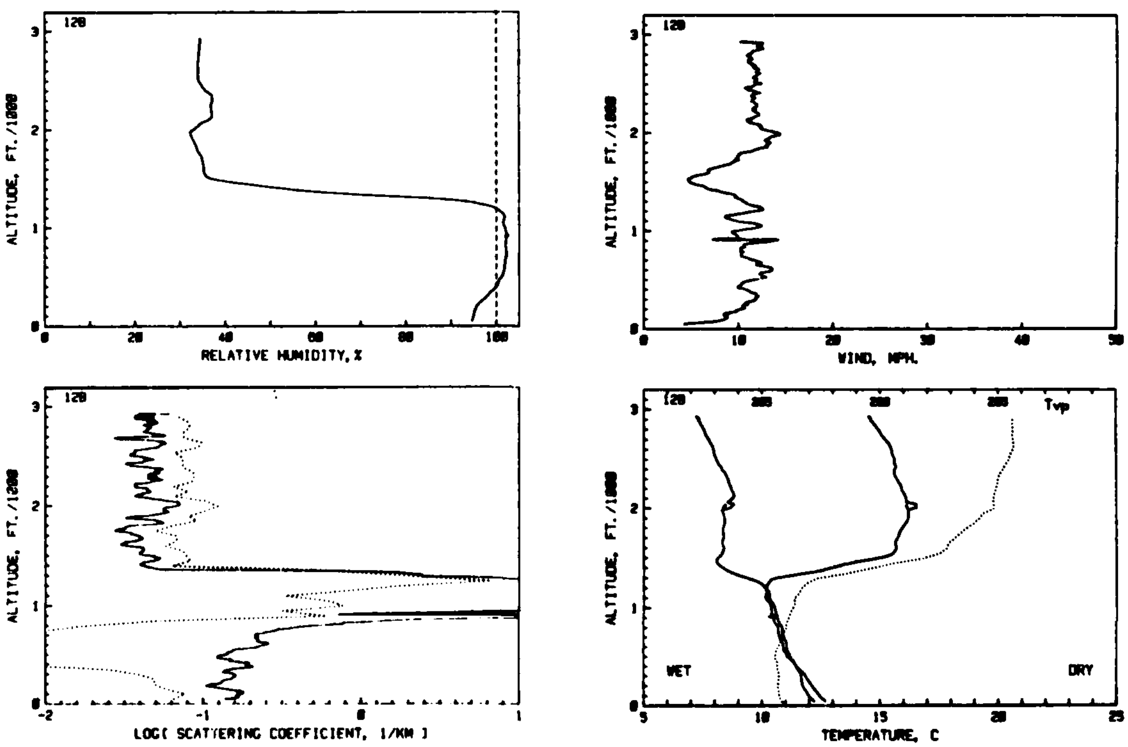






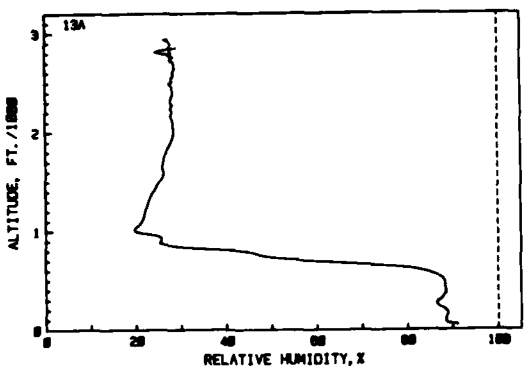
FLIGHT 12B, Oct.24

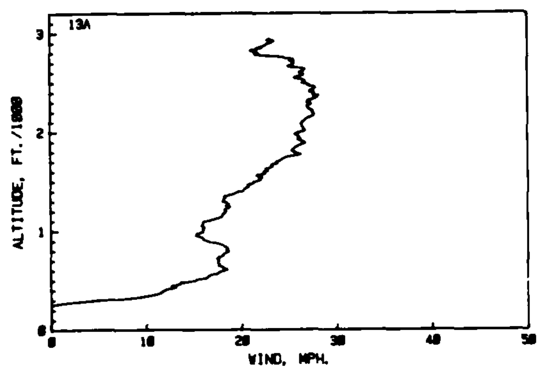
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
58	2900	210800	14.6	7.3	34.51	3.9	294.9	12.2	.040	.0010
57	2850	210947	14.7	7.4	34.37	3.9	294.9	12.2	.046	.0017
56	2800	211049	14.9	7.5	34.24	3.9	294.9	11.2	.046	.0024
55	2750	211143	15.0	7.6	34.10	3.9	294.9	11.4	.042	.0032
54	2700	211237	15.2	7.7	34.04	3.9	294.9	11.4	.042	.0038
53	2650	211347	15.4	7.9	33.97	4.0	295.0	12.2	.055	.0045
52	2600	211418	15.5	7.9	34.01	4.0	294.9	12.1	.052	.0055
51	2550	211448	15.5	8.0	33.98	4.0	294.8	12.0	.037	.0062
50	2500	211520	15.6	8.1	34.14	4.0	294.7	11.9	.042	.0066
49	2450	211607	15.6	8.2	34.83	4.1	294.6	11.0	.042	.0072
48	2400	211704	15.6	8.3	35.64	4.2	294.4	11.6	.042	.0077
47	2350	211751	15.6	8.5	37.06	4.4	294.3	11.6	.050	.0086
46	2300	211830	15.7	8.6	37.13	4.4	294.2	11.8	.050	.0092
45	2250	211919	15.8	8.6	36.80	4.4	294.2	11.6	.048	.0100
44	2200	211958	15.9	8.7	36.95	4.4	294.1	12.2	.037	.0107
43	2150	212028	16.0	8.8	37.10	4.4	294.0	11.5	.046	.0113
42	2100	212114	16.1	8.8	36.22	4.4	294.0	11.4	.037	.0120
41	2050	212153	16.3	8.7	34.29	4.2	294.1	12.3	.059	.0129
40	2000	212225	16.5	8.6	32.99	4.1	294.1	14.1	.069	.0139
39	1950	212257	16.2	8.4	32.40	3.9	293.7	13.3	.056	.0147
38	1900	212337	16.2	8.4	32.87	3.9	293.7	13.4	.045	.0156
37	1850	212409	16.1	8.4	33.40	4.0	293.3	12.6	.051	.0161
36	1800	212441	15.9	8.4	33.76	4.0	292.9	10.4	.035	.0169
35	1750	212513	15.8	8.4	34.43	4.0	292.7	9.9	.028	.0173
34	1700	212553	15.7	8.4	34.87	4.0	292.4	9.4	.038	.0179
33	1650	212624	15.6	8.3	35.10	4.0	292.2	7.7	.038	.0185
32	1600	212701	15.7	8.4	35.27	4.1	292.1	6.9	.033	.0189
31	1550	212740	15.6	8.7	35.45	4.0	291.8	5.1	.042	.0196
30	1500	212812	15.0	8.1	37.28	4.1	291.1	4.8	.045	.0202
29	1450	212843	13.8	8.1	44.61	4.5	289.8	6.5	.050	.0210
28	1400	212915	13.0	8.4	53.29	5.1	288.7	8.2	.041	.0215
27	1350	212949	12.0	8.7	65.38	5.9	287.6	9.7	.483	.0224
26	1300	213022	10.7	9.4	85.03	7.0	286.1	10.5	2.423	.0633
25	1250	213054	10.3	9.9	95.60	7.7	285.6	11.9	16.475	.2805
24	1200	213127	10.2	10.1	99.67	7.9	285.3	11.8	23.791	.6106
23	1150	213158	10.2	10.3	101.16	8.0	285.2	8.8	23.791	.9690
22	1100	213231	10.2	10.3	101.85	8.0	285.0	9.8	10.033	1.1582
21	1050	213255	10.3	10.4	101.46	8.1	285.0	12.5	19.057	1.3495
20	1000	213335	10.4	10.5	101.86	8.1	284.9	9.8	23.191	1.7362
19	950	213400	10.4	10.6	102.15	8.2	284.8	9.9	9.694	1.9533
18	900	213807	10.5	10.7	102.11	8.2	284.7	13.6	18.301	2.0690
17	850	213839	10.6	10.7	102.08	8.2	284.6	10.6	1.539	2.1102
16	800	213919	10.7	10.9	102.05	8.3	284.6	10.2	.537	2.1223
15	750	213951	10.7	10.9	102.19	8.3	284.5	10.3	.289	2.1286
14	700	214018	10.8	10.9	102.16	8.3	284.4	11.7	.215	2.1310
13	650	214058	10.9	11.0	102.00	8.3	284.4	12.0	.223	2.1347
12	600	214130	10.9	11.1	101.86	8.3	284.3	13.6	.245	2.1390
11	550	214154	11.0	11.1	101.59	8.3	284.2	12.3	.159	2.1411
10	500	214234	11.1	11.2	101.23	8.3	284.1	11.6	.140	2.1433
9	450	214314	11.3	11.4	100.44	8.4	284.2	10.3	.146	2.1451
8	400	214345	11.5	11.5	100.06	8.4	284.2	10.8	.189	2.1485
7	350	214424	11.7	11.6	98.94	8.4	284.3	11.9	.153	2.1510
6	300	214456	11.8	11.7	97.90	8.4	284.3	11.8	.155	2.1535
5	250	214529	12.0	11.7	96.73	8.4	284.3	10.9	.149	2.1558
4	200	214600	12.1	11.7	95.66	8.3	284.3	10.2	.123	2.1578
3	150	214633	12.3	11.9	95.22	8.4	284.3	8.5	.138	2.1596
2	100	214705	12.4	12.0	94.94	8.4	284.3	8.6	.175	2.1624
1	50	214901	12.7	12.2	94.68	8.5	284.4	4.3	.144	2.1637

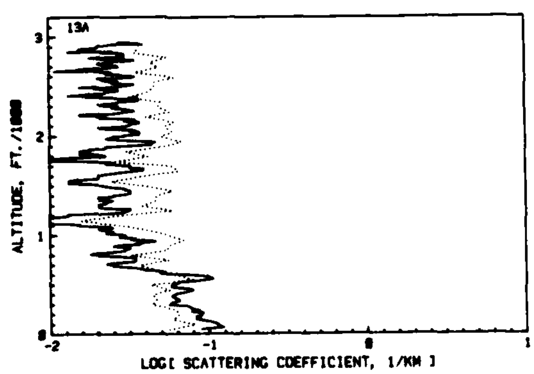


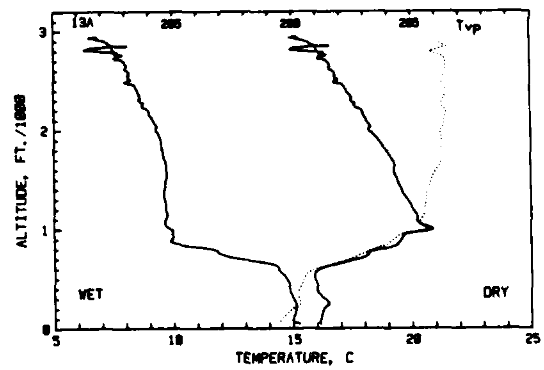
FLIGHT 13A, Oct.25

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	74917	16.2	15.3	91.09	10.3	287.6	0.0	.091	.0007
2	100	75033	16.2	15.0	88.43	10.0	287.8	0.0	.112	.0033
3	150	75056	16.2	15.1	88.77	10.1	288.0	0.0	.083	.0043
4	200	75127	16.3	15.1	88.40	10.1	288.2	0.0	.090	.0055
5	250	75205	16.5	15.1	86.49	10.0	288.6	.0	.078	.0072
6	300	75237	16.3	15.0	87.03	10.0	288.5	5.0	.057	.0080
7	350	75307	16.1	14.9	88.13	10.0	288.5	10.6	.064	.0089
8	400	75338	16.0	14.9	88.48	10.0	288.5	11.9	.062	.0099
9	450	75410	16.0	14.8	88.30	10.0	288.6	13.2	.078	.0109
10	500	75450	15.9	14.7	88.12	9.9	288.7	15.2	.059	.0119
11	550	75521	15.9	14.6	86.58	9.8	288.8	16.7	.099	.0131
12	600	75553	16.1	14.4	83.19	9.5	289.2	18.2	.072	.0144
13	650	75641	16.9	14.1	74.02	8.9	290.1	17.6	.039	.0153
14	700	75715	17.7	12.8	56.87	7.2	291.1	17.6	.025	.0156
15	750	75746	18.2	12.0	47.16	6.2	291.7	18.1	.035	.0162
16	800	75817	18.7	11.6	41.08	5.5	292.4	18.6	.019	.0165
17	850	75850	19.4	10.2	28.20	4.0	293.2	18.2	.030	.0169
18	900	75929	19.6	9.9	25.48	3.6	293.6	16.4	.030	.0173
19	950	80007	19.7	10.0	25.00	3.6	293.9	15.4	.037	.0179
20	1000	80055	20.9	9.9	19.89	3.1	295.2	16.0	.030	.0184
21	1050	80126	20.4	9.7	20.40	3.1	294.8	15.9	.022	.0188
22	1100	80156	20.2	9.7	21.37	3.2	294.8	16.4	.016	.0190
23	1150	80227	20.2	9.7	21.84	3.3	294.9	18.0	.008	.0191
24	1200	80258	20.0	9.7	22.09	3.3	294.9	18.4	.013	.0193
25	1250	80329	19.9	9.7	22.50	3.3	295.0	18.6	.031	.0196
26	1300	80408	19.8	9.6	22.88	3.4	295.0	18.1	.020	.0200
27	1350	80439	19.7	9.6	23.36	3.4	295.0	18.3	.025	.0204
28	1400	80509	19.6	9.6	23.98	3.5	295.1	20.2	.025	.0206
29	1450	80548	19.5	9.7	24.66	3.6	295.1	20.8	.032	.0212
30	1500	80622	19.4	9.7	25.32	3.6	295.2	21.5	.022	.0215
31	1550	80701	19.3	9.7	25.99	3.7	295.2	21.9	.013	.0217
32	1600	80748	19.3	9.7	26.14	3.7	295.3	22.5	.020	.0220
33	1650	80826	19.3	9.7	25.92	3.7	295.5	23.3	.035	.0225
34	1700	80857	19.2	9.7	26.13	3.7	295.6	23.8	.032	.0229
35	1750	80936	19.1	9.6	26.37	3.8	295.6	25.0	.014	.0234
36	1800	81023	18.9	9.6	26.84	3.8	295.6	25.6	.023	.0237
37	1850	81103	18.8	9.5	27.33	3.8	295.6	25.8	.017	.0239
38	1900	81143	18.6	9.5	27.88	3.9	295.6	26.5	.029	.0242
39	1950	81232	18.4	9.4	28.32	3.9	295.6	26.0	.037	.0248
40	2000	81312	18.2	9.3	28.51	3.9	295.5	26.3	.028	.0253
41	2050	81359	18.3	9.3	28.41	3.9	295.7	26.4	.033	.0259
42	2100	81437	18.1	9.2	28.35	3.9	295.7	26.4	.029	.0261
43	2150	81516	18.0	9.0	27.99	3.8	295.7	27.2	.033	.0267
44	2200	81603	17.9	9.0	28.06	3.8	295.8	27.4	.022	.0274
45	2250	81642	17.6	8.7	27.87	3.7	295.6	27.0	.031	.0279
46	2300	81730	17.5	8.6	27.82	3.7	295.7	26.9	.027	.0282
47	2350	81809	17.4	8.6	27.93	3.7	295.8	28.0	.028	.0287
48	2400	81905	17.3	8.5	28.24	3.7	295.8	27.6	.017	.0291
49	2450	81959	17.2	8.4	28.12	3.7	295.8	27.8	.023	.0294
50	2500	82121	16.8	8.1	27.86	3.5	295.6	26.7	.025	.0299
51	2550	82207	16.8	8.1	28.04	3.6	295.7	25.6	.025	.0302
52	2600	82313	16.7	8.1	28.39	3.6	295.8	26.2	.033	.0306
53	2650	82410	16.6	8.1	28.77	3.6	295.8	26.0	.019	.0306
54	2700	82459	16.5	7.9	28.50	3.6	295.8	25.6	.027	.0310
55	2750	82603	16.3	7.7	28.02	3.5	295.8	24.7	.024	.0313
56	2800	82756	15.6	6.9	25.76	3.1	295.3	21.8	.030	.0317
57	2850	82926	16.1	7.6	28.13	3.5	295.9	21.8	.019	.0321
58	2900	83504	15.6	7.2	27.66	3.3	295.6	23.0	.020	.0325



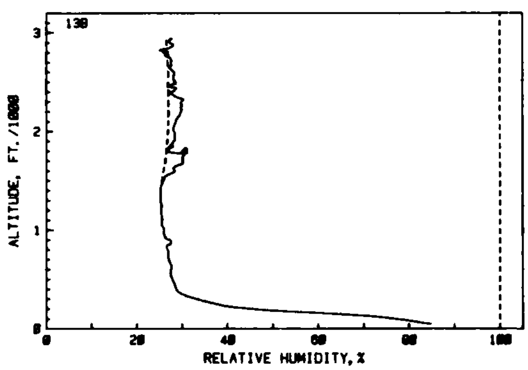


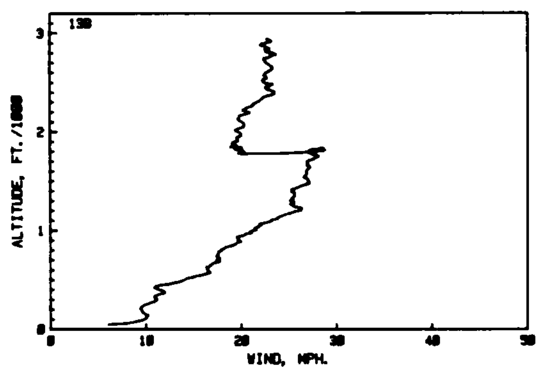


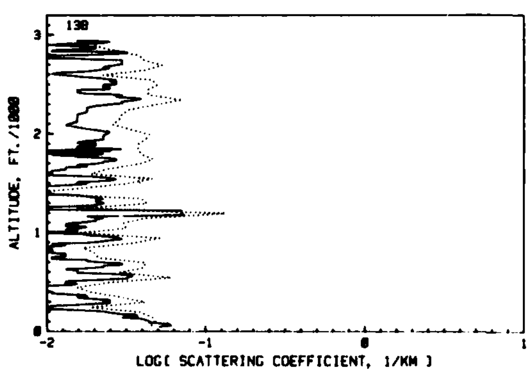


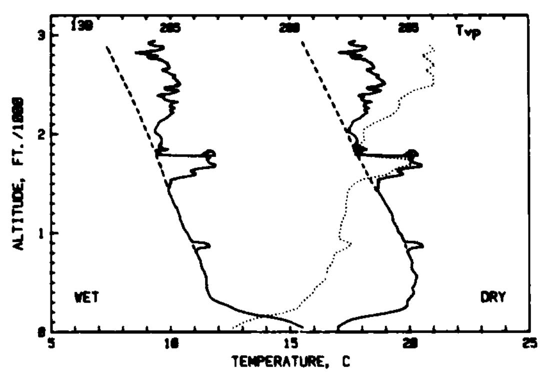
FLIGHT 13B, Oct.25

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
58	2900	83740	17.7	9.3	27.26	3.2	295.3	22.6	.011	.0003
57	2850	83845	18.0	9.5	27.31	3.3	295.5	22.8	.014	.0006
56	2800	84006	17.7	9.1	26.10	3.1	295.0	23.3	.020	.0009
55	2750	84111	18.1	9.5	27.08	3.3	295.3	22.8	.022	.0011
54	2700	84151	18.4	9.9	27.57	3.4	295.5	22.6	.029	.0018
53	2650	84224	18.2	9.7	27.13	3.3	295.1	23.4	.022	.0022
52	2600	84238	18.7	10.1	28.23	3.5	295.4	22.7	.012	.0023
51	2550	84338	18.8	10.2	28.07	3.5	295.4	22.7	.025	.0026
50	2500	84420	18.9	10.4	28.54	3.6	295.4	22.4	.027	.0030
49	2450	84517	18.3	9.8	27.54	3.3	294.6	22.8	.023	.0032
48	2400	84615	18.1	9.7	27.59	3.3	294.3	23.5	.024	.0034
47	2350	84657	18.0	9.8	28.72	3.4	294.0	22.4	.039	.0042
46	2300	84721	18.2	10.0	29.86	3.5	294.0	21.7	.026	.0047
45	2250	84745	18.2	10.1	29.80	3.5	293.9	20.9	.018	.0048
44	2200	84801	18.1	10.0	29.75	3.5	293.7	20.7	.016	.0052
43	2150	84817	17.8	9.7	29.21	3.4	293.2	19.8	.016	.0054
42	2100	84826	17.6	9.5	28.59	3.3	292.8	20.1	.014	.0057
41	2050	84843	17.5	9.4	28.17	3.2	292.5	20.3	.018	.0059
40	2000	84852	17.6	9.5	28.21	3.2	292.5	19.7	.024	.0061
39	1950	84908	17.8	9.6	28.44	3.3	292.6	19.7	.023	.0066
38	1900	84941	17.7	9.6	28.12	3.2	292.4	19.4	.020	.0067
37	1850	85034	18.1	9.8	27.87	3.3	292.6	19.2	.020	.0071
36	1800	85329	17.8	9.5	26.68	3.0	292.2	20.3	.021	.0073
35	1750	85658	20.1	11.6	30.22	4.0	294.3	28.1	.026	.0077
34	1700	85732	20.3	11.7	30.17	4.0	294.4	26.9	.021	.0080
33	1650	85822	19.8	11.2	28.73	3.7	293.7	27.1	.013	.0083
32	1600	85903	19.7	11.1	28.35	3.6	293.5	26.9	.010	.0085
31	1550	85936	18.9	10.2	26.56	3.2	292.5	26.7	.025	.0087
30	1500	90017	18.7	10.0	25.81	3.1	292.1	27.0	.017	.0091
29	1450	90043	18.7	9.9	25.36	3.0	292.0	26.2	.008	.0094
28	1400	90132	18.7	10.0	25.27	3.0	291.9	25.3	.004	.0095
27	1350	90213	18.9	10.1	25.27	3.0	291.8	25.6	.021	.0099
26	1300	90246	19.0	10.1	25.16	3.0	291.8	25.2	.023	.0102
25	1250	90334	19.1	10.3	25.49	3.1	291.8	25.5	.008	.0103
24	1200	90415	19.2	10.3	25.35	3.1	291.8	26.1	.071	.0110
23	1150	90439	19.3	10.4	25.47	3.1	291.7	24.4	.022	.0113
22	1100	90511	19.4	10.5	25.62	3.1	291.6	23.2	.016	.0115
21	1050	90551	19.5	10.6	25.51	3.1	291.6	22.0	.017	.0116
20	1000	90623	19.6	10.7	26.03	3.2	291.5	21.3	.009	.0120
19	950	90711	19.7	10.8	26.03	3.2	291.5	20.2	.028	.0123
18	900	90751	20.3	11.4	27.27	3.5	292.0	19.8	.019	.0126
17	850	90824	20.2	11.3	26.92	3.5	291.7	19.1	.009	.0128
16	800	90857	19.9	11.1	26.76	3.4	291.3	17.9	.011	.0130
15	750	90928	20.0	11.2	26.95	3.4	291.2	17.5	.011	.0131
14	700	91003	20.1	11.3	27.01	3.4	291.2	17.4	.023	.0133
13	650	91044	20.1	11.3	27.51	3.5	291.0	16.8	.022	.0137
12	600	91117	20.2	11.4	27.55	3.5	290.9	16.5	.016	.0139
11	550	91150	20.3	11.5	27.47	3.5	290.9	15.9	.032	.0145
10	500	91231	20.2	11.5	27.83	3.5	290.7	14.0	.013	.0148
9	450	91304	20.1	11.5	28.36	3.6	290.4	11.7	.008	.0149
8	400	91337	20.2	11.6	28.67	3.6	290.3	11.5	.010	.0150
7	350	91409	20.0	11.7	30.05	3.7	290.0	11.3	.016	.0152
6	300	91449	19.9	12.0	33.29	4.1	289.7	11.2	.023	.0156
5	250	91521	19.8	12.6	37.51	4.6	289.5	10.0	.011	.0157
4	200	91554	19.2	13.1	45.64	5.4	288.8	9.5	.023	.0160
3	150	91627	18.0	14.2	63.92	7.0	287.4	10.1	.034	.0165
2	100	91700	17.3	15.0	76.99	8.0	286.6	9.8	.044	.0172
1	50	91740	17.0	15.5	84.68	8.7	286.1	6.1	.052	.0177



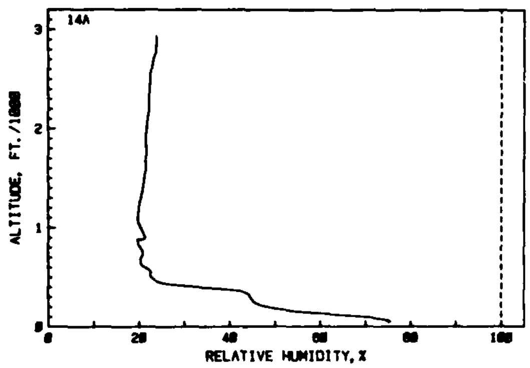


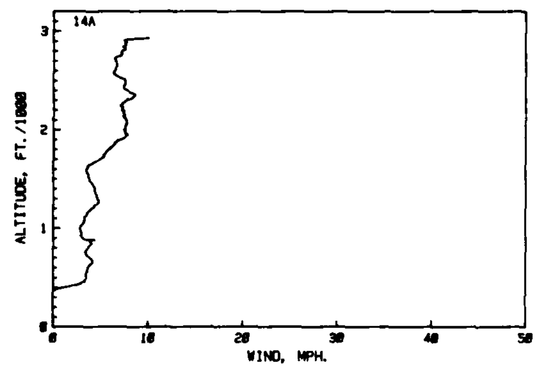


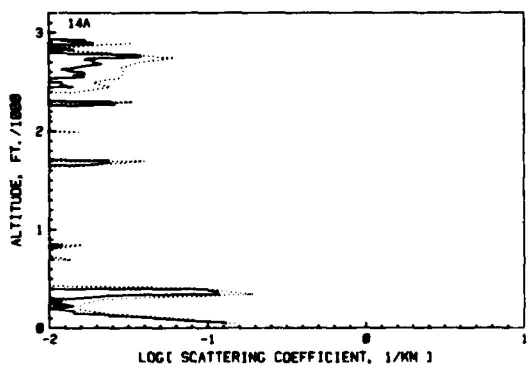


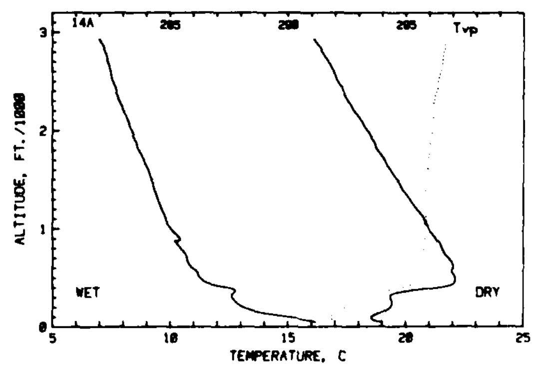
FLIGHT 14A, Oct.25

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	150856	19.0	16.2	75.10	10.1	290.4	0.0	.132	.0007
2	100	150935	18.6	15.1	69.10	9.1	290.2	0.0	.049	.0024
3	150	151013	19.0	13.8	55.55	7.5	290.7	0.0	.014	.0027
4	200	151036	19.3	13.1	48.27	6.6	291.2	0.0	.010	.0028
5	250	151107	19.4	12.8	45.46	6.3	291.4	0.0	.010	.0030
6	300	151143	19.3	12.6	44.61	6.2	291.5	0.0	.014	.0032
7	350	151214	19.7	12.7	43.30	6.1	292.0	0.0	.117	.0036
8	400	151245	21.3	12.5	33.38	5.2	293.8	1.1	.053	.0051
9	450	151325	22.1	11.6	24.53	4.0	294.7	3.1	.003	.0051
10	500	151358	22.1	11.3	22.70	3.7	294.9	3.5	.001	.0052
11	550	151430	22.0	11.2	22.57	3.7	294.9	3.5	-.006	.0051
12	600	151503	22.0	11.0	21.33	3.5	295.1	3.7	-.005	.0050
13	650	151535	22.0	10.8	20.35	3.3	295.2	4.2	0.000	.0050
14	700	151617	21.8	10.7	20.56	3.3	295.2	3.9	.007	.0051
15	750	151648	21.6	10.6	20.88	3.4	295.1	3.5	.004	.0052
16	800	151712	21.5	10.5	20.32	3.3	295.2	3.7	.005	.0052
17	850	151751	21.5	10.3	19.76	3.2	295.3	3.9	.008	.0054
18	900	151923	21.3	10.4	21.27	3.4	295.2	3.0	-.012	.0052
19	950	152002	21.1	10.2	20.88	3.3	295.2	3.0	-.017	.0051
20	1000	152041	21.0	10.0	20.33	3.2	295.2	2.9	-.005	.0049
21	1050	152113	20.9	9.9	19.85	3.1	295.3	3.2	-.003	.0049
22	1100	152144	20.8	9.8	19.75	3.0	295.3	3.3	-.002	.0048
23	1150	152209	20.6	9.7	19.89	3.1	295.3	3.6	-.007	.0048
24	1200	152249	20.5	9.6	20.05	3.0	295.3	4.2	-.004	.0047
25	1250	152321	20.3	9.5	20.24	3.1	295.3	4.7	-.005	.0046
26	1300	152353	20.2	9.5	20.39	3.1	295.3	4.6	-.000	.0045
27	1350	152425	20.0	9.4	20.62	3.1	295.3	4.5	.004	.0047
28	1400	152503	19.9	9.3	20.84	3.1	295.3	4.4	.004	.0048
29	1450	152532	19.8	9.3	21.02	3.1	295.3	4.1	.002	.0048
30	1500	152604	19.6	9.2	21.20	3.1	295.4	3.8	-.001	.0048
31	1550	152636	19.5	9.1	21.36	3.1	295.3	3.7	-.010	.0046
32	1600	152700	19.3	9.1	21.57	3.1	295.4	3.5	-.010	.0045
33	1650	152741	19.2	8.9	21.53	3.1	295.4	4.1	.007	.0044
34	1700	152821	19.1	8.9	21.54	3.1	295.4	4.9	.021	.0049
35	1750	152853	18.9	8.8	21.60	3.1	295.4	5.4	-.004	.0048
36	1800	152930	18.8	8.7	21.57	3.0	295.4	5.9	.002	.0048
37	1850	152959	18.7	8.6	21.52	3.0	295.5	6.4	-.002	.0048
38	1900	153037	18.6	8.5	21.52	3.0	295.5	7.2	-.002	.0048
39	1950	153115	18.5	8.4	21.56	3.0	295.6	7.8	-.002	.0048
40	2000	153147	18.3	8.4	21.73	3.0	295.6	7.5	.008	.0049
41	2050	153218	18.2	8.3	21.80	3.0	295.6	7.8	-.001	.0049
42	2100	153250	18.1	8.2	21.97	3.0	295.6	7.7	-.002	.0049
43	2150	153322	18.0	8.1	22.07	3.0	295.6	7.5	.006	.0049
44	2200	153401	17.8	8.0	22.14	3.0	295.6	7.2	-.004	.0049
45	2250	153432	17.7	7.9	22.21	2.9	295.7	7.2	.002	.0049
46	2300	153519	17.6	7.8	22.22	2.9	295.7	7.8	.018	.0052
47	2350	153550	17.4	7.8	22.31	2.9	295.7	8.6	0.000	.0052
48	2400	153628	17.3	7.7	22.38	2.9	295.8	7.7	.007	.0052
49	2450	153709	17.2	7.7	22.52	2.9	295.8	7.5	.013	.0053
50	2500	153748	17.1	7.6	22.60	2.9	295.8	7.6	.010	.0055
51	2550	153811	17.0	7.5	22.65	2.9	295.9	6.6	.015	.0056
52	2600	153842	16.9	7.5	22.83	2.9	296.0	6.5	.016	.0059
53	2650	153908	16.8	7.4	23.01	2.9	296.0	6.7	.015	.0061
54	2700	153932	16.7	7.3	23.22	2.9	296.0	6.5	.019	.0065
55	2750	154011	16.6	7.3	23.65	3.0	296.0	7.0	.033	.0067
56	2800	154057	16.4	7.2	23.85	3.0	296.1	7.3	.011	.0070
57	2850	154136	16.3	7.2	23.94	3.0	296.1	7.6	.005	.0072
58	2900	154223	16.2	7.1	23.97	3.0	296.1	7.5	.018	.0075



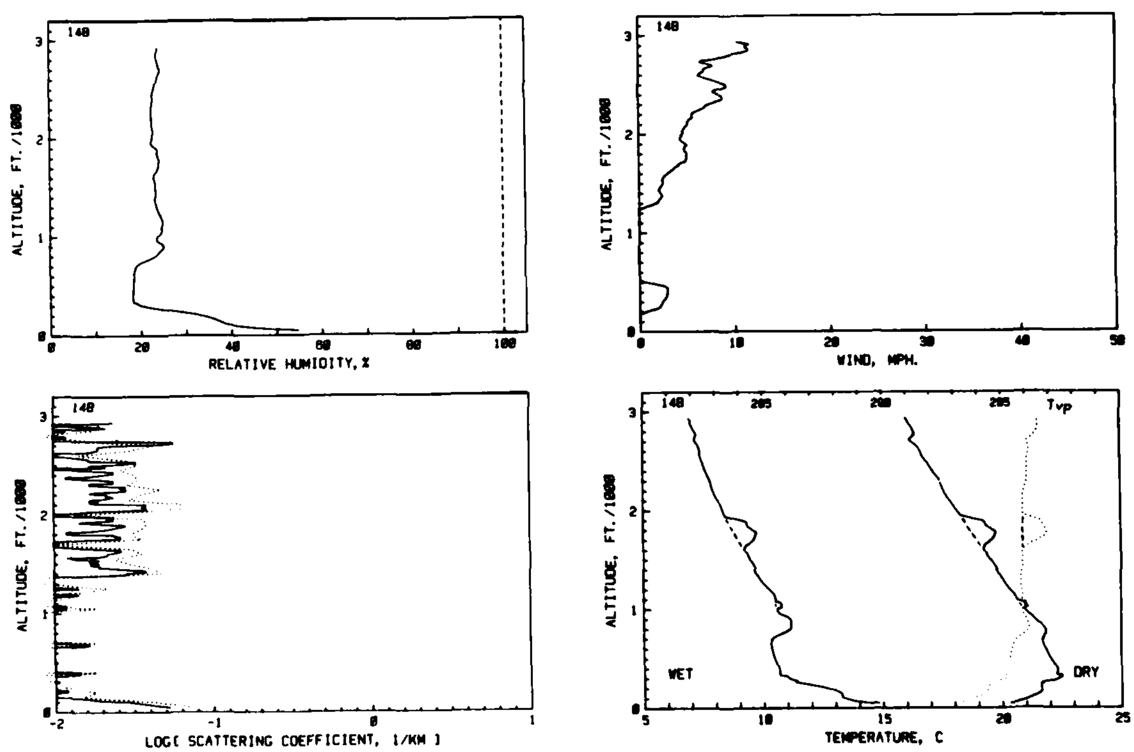






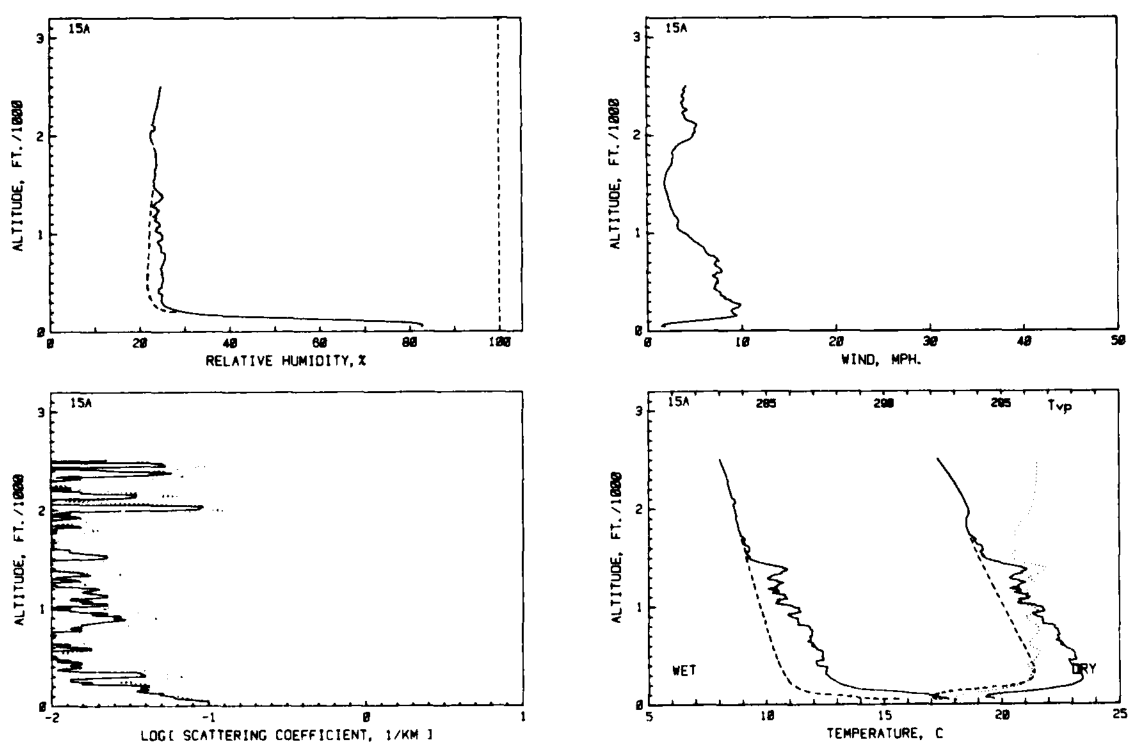
FLIGHT 14B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
58	2900	154445	16.1	7.0	23.92	2.9	296.0	11.3	.012	.0003
57	2850	154538	16.2	7.1	23.64	2.9	296.0	11.5	.011	.0006
56	2800	154617	16.4	7.2	23.80	3.0	296.0	9.5	.005	.0007
55	2750	154656	16.3	7.2	24.05	3.0	295.8	7.3	.009	.0009
54	2700	154752	16.2	7.2	24.50	3.0	295.5	7.7	.026	.0014
53	2650	154825	16.5	7.3	24.15	3.0	295.6	6.8	.019	.0019
52	2600	154842	16.6	7.4	23.79	3.0	295.6	6.3	.009	.0020
51	2550	154905	16.7	7.4	23.48	3.0	295.6	7.6	.017	.0023
50	2500	154937	16.9	7.5	23.16	2.9	295.6	9.2	.021	.0027
49	2450	155011	17.0	7.6	22.92	2.9	295.6	8.2	.016	.0028
48	2400	155049	17.1	7.6	22.80	2.9	295.6	8.5	.020	.0032
47	2350	155128	17.3	7.7	22.64	2.9	295.6	8.6	.021	.0033
46	2300	155215	17.4	7.8	22.52	2.9	295.6	7.3	.018	.0037
45	2250	155246	17.5	7.9	22.49	3.0	295.5	6.5	.029	.0042
44	2200	155317	17.6	7.9	22.56	3.0	295.4	5.6	.022	.0044
43	2150	155355	17.7	8.0	22.63	3.0	295.4	5.3	.018	.0047
42	2100	155426	17.8	8.2	22.76	3.0	295.4	5.1	.038	.0051
41	2050	155458	18.0	8.3	22.82	3.1	295.4	4.7	.038	.0058
40	2000	155529	18.1	8.3	22.64	3.1	295.4	4.5	.008	.0060
39	1950	155609	18.3	8.4	22.44	3.1	295.4	4.3	.023	.0064
38	1900	155641	19.1	9.1	23.53	3.4	296.0	4.9	.023	.0065
37	1850	155714	19.3	9.4	23.69	3.4	296.1	4.8	.022	.0070
36	1800	155746	19.6	9.6	24.00	3.5	296.3	5.1	.019	.0072
35	1750	155825	19.7	9.7	24.11	3.6	296.2	4.9	.022	.0076
34	1700	155858	19.6	9.6	23.96	3.5	295.9	4.2	.006	.0077
33	1650	155931	19.3	9.3	23.35	3.4	295.5	3.7	.019	.0079
32	1600	160002	19.3	9.2	22.94	3.3	295.3	3.0	.022	.0084
31	1550	160034	19.4	9.4	23.30	3.4	295.3	2.5	.014	.0086
30	1500	160116	19.5	9.5	23.27	3.4	295.2	2.5	.018	.0089
29	1450	160140	19.7	9.6	23.42	3.4	295.3	2.1	.026	.0092
28	1400	160212	19.8	9.7	23.28	3.4	295.2	2.3	.029	.0097
27	1350	160252	19.9	9.8	23.33	3.4	295.2	2.2	.003	.0098
26	1300	160324	20.0	9.9	23.60	3.5	295.2	1.8	.006	.0099
25	1250	160354	20.2	10.1	24.00	3.6	295.2	.3	.013	.0100
24	1200	160425	20.3	10.3	24.56	3.7	295.2	0.0	.008	.0102
23	1150	160457	20.5	10.5	24.90	3.8	295.2	0.0	.008	.0104
22	1100	160527	20.6	10.5	24.71	3.8	295.2	0.0	.003	.0104
21	1050	160559	21.0	10.8	24.68	3.9	295.4	0.0	.011	.0106
20	1000	160630	21.0	10.6	23.72	3.7	295.2	0.0	.004	.0106
19	950	160709	21.1	10.8	23.84	3.8	295.2	0.0	.002	.0106
18	900	160741	21.4	11.2	25.27	4.0	295.3	0.0	-.007	.0105
17	850	160820	21.6	11.2	24.39	3.9	295.4	0.0	.005	.0106
16	800	160851	21.8	11.1	23.25	3.8	295.5	0.0	-.003	.0106
15	750	160922	21.8	10.7	20.88	3.4	295.3	0.0	-.016	.0104
14	700	160954	21.7	10.4	19.14	3.1	295.1	0.0	.011	.0104
13	650	161032	21.7	10.3	18.77	3.0	294.9	0.0	.005	.0107
12	600	161102	21.8	10.4	18.53	3.0	294.9	0.0	-.016	.0104
11	550	161142	21.9	10.4	18.44	3.0	294.8	0.0	-.005	.0103
10	500	161213	22.0	10.5	18.36	3.0	294.8	.7	.002	.0102
9	450	161245	22.2	10.6	18.28	3.0	294.8	2.7	-.005	.0102
8	400	161324	22.3	10.6	18.20	3.0	294.8	2.9	.011	.0102
7	350	161353	22.3	10.7	18.27	3.0	294.6	2.8	.002	.0105
6	300	161425	22.4	11.1	20.19	3.4	294.6	2.4	.007	.0105
5	250	161504	21.7	11.7	26.53	4.2	293.7	2.1	.007	.0105
4	200	161536	21.6	12.7	33.09	5.2	293.5	.7	.012	.0108
3	150	161559	21.6	13.2	36.67	5.8	293.3	0.0	.010	.0109
2	100	161639	21.1	13.4	40.12	6.1	292.7	0.0	.030	.0112
1	50	161710	20.3	14.8	53.57	7.8	291.8	0.0	.052	.0117



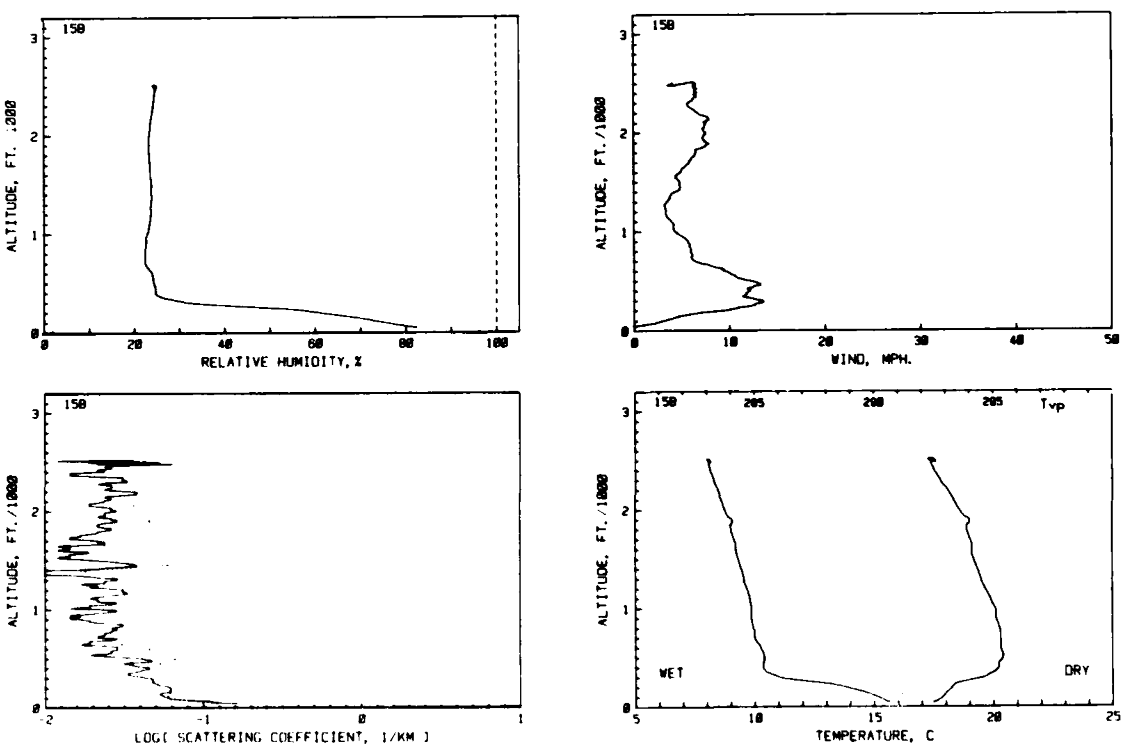
FLIGHT 15A, Oct.25

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	193944	19.7	17.7	82.71	11.7	291.0	1.6	.096	.0008
2	100	194030	19.7	16.9	75.43	10.6	291.2	4.8	.058	.0021
3	150	194101	21.9	14.6	44.40	7.1	293.6	9.2	.036	.0028
4	200	194132	23.0	13.2	30.12	5.2	294.8	8.9	.041	.0033
5	250	194203	23.4	12.9	26.29	4.6	295.4	9.7	.014	.0036
6	300	194235	23.4	12.6	25.02	4.4	295.5	8.9	.038	.0039
7	350	194314	23.3	12.5	24.89	4.4	295.6	8.1	.025	.0045
8	400	194346	22.9	12.1	24.26	4.2	295.3	7.7	.015	.0047
9	450	194417	23.1	12.3	24.77	4.3	295.6	7.2	.012	.0049
10	500	194454	23.1	12.4	25.05	4.4	295.8	7.4	.010	.0051
11	550	194531	23.0	12.4	25.35	4.4	295.8	7.1	.006	.0051
12	600	194609	22.5	11.9	24.83	4.2	295.5	7.9	.013	.0054
13	650	194641	22.4	11.8	24.79	4.2	295.5	7.5	.008	.0055
14	700	194713	22.4	11.9	25.20	4.3	295.7	7.2	.008	.0056
15	750	194752	22.4	12.0	25.62	4.3	295.8	7.2	.009	.0057
16	800	194822	22.2	11.8	25.56	4.3	295.8	6.2	.014	.0060
17	850	194852	21.7	11.3	24.70	4.0	295.4	6.0	.019	.0062
18	900	194924	21.5	11.1	24.21	3.9	295.3	5.2	.025	.0067
19	950	195002	21.8	11.4	25.08	4.1	295.8	4.6	.021	.0069
20	1000	195038	21.5	11.1	24.73	4.0	295.6	3.9	.011	.0071
21	1050	195117	20.8	10.5	23.83	3.7	295.1	3.3	.018	.0075
22	1100	195146	21.1	10.8	24.45	3.9	295.5	3.2	.017	.0076
23	1150	195218	20.8	10.5	23.75	3.7	295.4	3.2	.018	.0080
24	1200	195248	20.7	10.4	23.81	3.7	295.5	2.8	.019	.0084
25	1250	195318	20.8	10.5	24.04	3.8	295.7	2.6	.008	.0084
26	1300	195356	20.4	10.2	23.36	3.6	295.5	2.5	.011	.0087
27	1350	195426	20.9	10.6	24.65	3.9	296.1	2.3	.016	.0089
28	1400	195504	20.8	10.7	25.07	3.9	296.2	2.1	.004	.0090
29	1450	195542	19.8	9.8	23.73	3.5	295.3	1.9	.005	.0091
30	1500	195613	19.2	9.2	23.07	3.3	294.9	1.8	.018	.0092
31	1550	195650	19.1	9.1	23.13	3.3	294.9	1.9	.019	.0096
32	1600	195723	19.2	9.3	23.50	3.3	295.1	2.0	.012	.0098
33	1650	195756	18.9	9.1	23.43	3.3	295.0	2.2	.005	.0099
34	1700	195838	18.8	9.0	23.76	3.3	295.0	2.6	.006	.0099
35	1750	195918	18.6	8.9	23.75	3.3	295.0	2.7	.007	.0100
36	1800	195958	18.5	8.8	23.70	3.3	295.0	2.8	.011	.0101
37	1850	200036	18.5	8.8	23.57	3.2	295.2	2.8	.006	.0103
38	1900	200106	18.5	8.7	23.17	3.2	295.4	3.3	.010	.0104
39	1950	200153	18.6	8.7	22.73	3.2	295.6	4.3	.011	.0105
40	2000	200233	18.6	8.6	22.56	3.1	295.7	4.9	.067	.0108
41	2050	200311	18.5	8.6	22.90	3.2	295.8	5.1	.040	.0122
42	2100	200350	18.4	8.6	23.48	3.2	295.8	5.3	.006	.0123
43	2150	200430	18.3	8.5	23.12	3.2	295.9	4.4	.035	.0128
44	2200	200523	18.1	8.4	23.32	3.2	295.9	4.0	.012	.0130
45	2250	200626	18.0	8.4	23.57	3.2	295.9	4.1	.006	.0132
46	2300	200729	17.9	8.3	23.95	3.2	295.9	3.8	.012	.0132
47	2350	200813	17.7	8.3	24.18	3.2	295.9	3.8	.037	.0133
48	2400	200900	17.6	8.2	24.39	3.2	295.9	3.8	.023	.0142
49	2450	200947	17.5	8.1	24.53	3.2	295.9	4.0	.051	.0144
50	2500	201050	17.3	8.0	24.81	3.2	295.9	4.2	.018	.0153



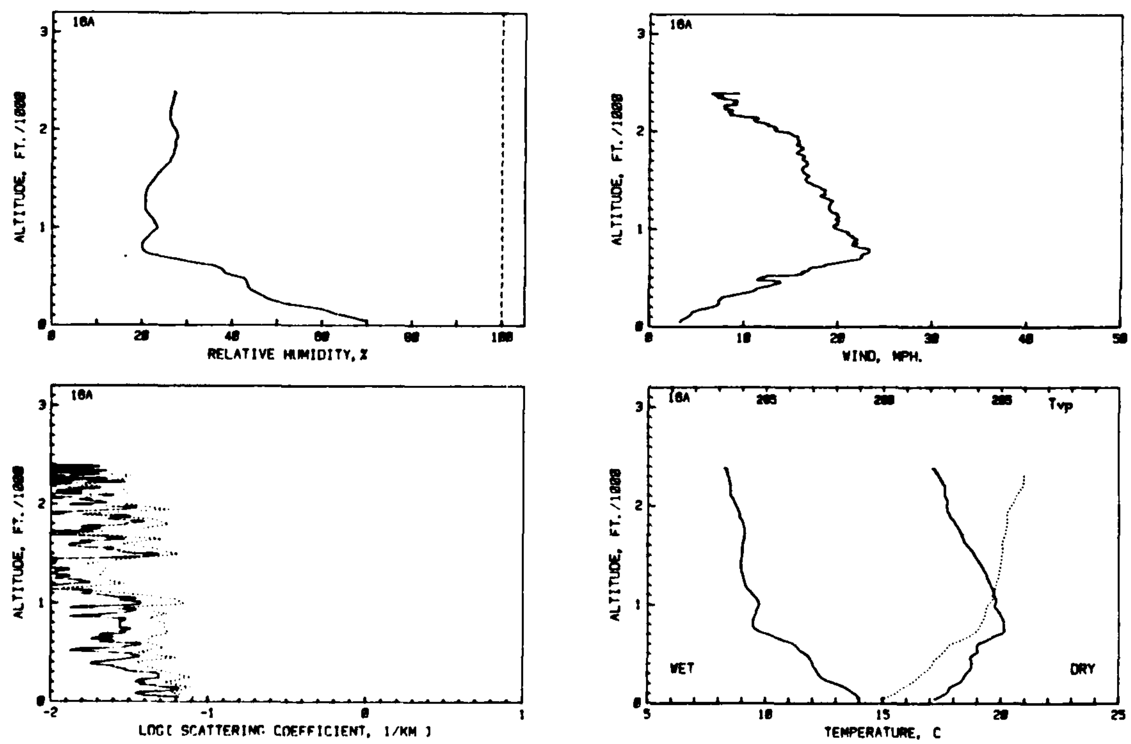
FLIGHT 158, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
50	2500	201432	17.3	8.1	24.90	3.3	296.0	4.0	.026	.0004
49	2450	202014	17.4	8.1	24.62	3.2	295.9	6.6	.026	.0009
48	2400	202052	17.5	8.1	24.48	3.2	295.8	6.4	.020	.0012
47	2350	202131	17.6	8.2	24.38	3.2	295.8	6.2	.026	.0015
46	2300	202203	17.8	8.3	24.22	3.2	295.8	5.6	.031	.0021
45	2250	202234	17.9	8.4	24.05	3.2	295.8	6.1	.026	.0026
44	2200	202313	18.1	8.5	23.86	3.2	295.8	6.8	.036	.0029
43	2150	202351	18.2	8.5	23.70	3.2	295.8	7.8	.025	.0035
42	2100	202422	18.3	8.6	23.60	3.2	295.8	7.6	.024	.0039
41	2050	202502	18.5	8.7	23.46	3.2	295.7	7.3	.022	.0042
40	2000	202539	18.6	8.8	23.34	3.2	295.7	7.5	.027	.0046
39	1950	202616	18.7	8.9	23.25	3.3	295.7	7.2	.023	.0049
38	1900	202654	19.0	9.1	23.33	3.3	295.8	7.8	.029	.0053
37	1850	202729	18.9	9.0	23.22	3.3	295.6	7.1	.022	.0056
36	1800	202808	18.9	9.0	23.35	3.3	295.4	6.5	.023	.0060
35	1750	202838	19.0	9.1	23.40	3.3	295.3	6.1	.017	.0063
34	1700	202916	19.0	9.1	23.47	3.3	295.3	5.8	.022	.0065
33	1650	202947	19.1	9.2	23.54	3.3	295.2	5.2	.014	.0070
32	1600	203019	19.1	9.2	23.59	3.3	295.0	4.8	.013	.0072
31	1550	203059	19.1	9.3	23.73	3.4	294.9	4.3	.014	.0074
30	1500	203129	19.2	9.3	23.81	3.4	294.8	4.8	.022	.0076
29	1450	203159	19.3	9.4	23.77	3.4	294.7	4.8	.037	.0082
28	1400	203238	19.3	9.4	23.81	3.4	294.7	4.2	.010	.0085
27	1350	203308	19.4	9.5	23.83	3.4	294.6	3.8	.015	.0086
26	1300	203346	19.5	9.6	23.76	3.4	294.5	3.4	.028	.0091
25	1250	203415	19.5	9.6	23.70	3.4	294.4	3.3	.019	.0094
24	1200	203452	19.6	9.7	23.72	3.4	294.4	3.4	.031	.0099
23	1150	203516	19.8	9.8	23.62	3.4	294.4	3.5	.028	.0103
22	1100	203555	19.9	9.8	23.42	3.4	294.3	4.0	.022	.0105
21	1050	203625	20.0	9.8	23.25	3.4	294.2	4.1	.023	.0110
20	1000	203703	20.1	9.9	22.92	3.4	294.2	4.3	.024	.0111
19	950	203741	20.1	9.9	22.65	3.3	294.1	5.1	.017	.0115
18	900	203819	20.1	9.9	22.63	3.3	294.0	5.7	.017	.0117
17	850	203850	20.2	9.9	22.50	3.3	293.9	5.8	.031	.0121
16	800	203922	20.3	10.0	22.42	3.3	293.8	5.9	.028	.0126
15	750	203953	20.3	10.0	22.46	3.3	293.7	6.0	.024	.0130
14	700	204030	20.3	10.0	22.50	3.3	293.6	6.4	.028	.0134
13	650	204102	20.3	10.1	23.15	3.4	293.4	8.2	.018	.0136
12	600	204134	20.3	10.3	23.95	3.5	293.3	9.6	.029	.0141
11	550	204211	20.4	10.4	24.18	3.6	293.2	10.6	.024	.0145
10	500	204249	20.4	10.4	24.38	3.6	293.1	12.3	.041	.0150
9	450	204320	20.2	10.4	24.73	3.6	292.8	12.6	.031	.0156
8	400	204359	20.2	10.4	24.75	3.6	292.6	12.1	.045	.0163
7	350	204430	20.0	10.5	26.73	3.8	292.2	11.5	.033	.0168
6	300	204501	19.6	11.1	32.28	4.5	291.7	13.5	.047	.0175
5	250	204535	18.6	12.7	49.04	6.4	290.6	12.3	.050	.0182
4	200	204609	18.3	13.9	60.75	7.8	290.0	9.0	.062	.0192
3	150	204641	18.0	14.6	68.76	8.7	289.7	5.0	.054	.0201
2	100	204713	17.9	15.2	75.03	9.4	289.3	3.1	.061	.0208
1	50	204801	17.5	15.6	81.54	10.0	288.9	.2	.147	.0218



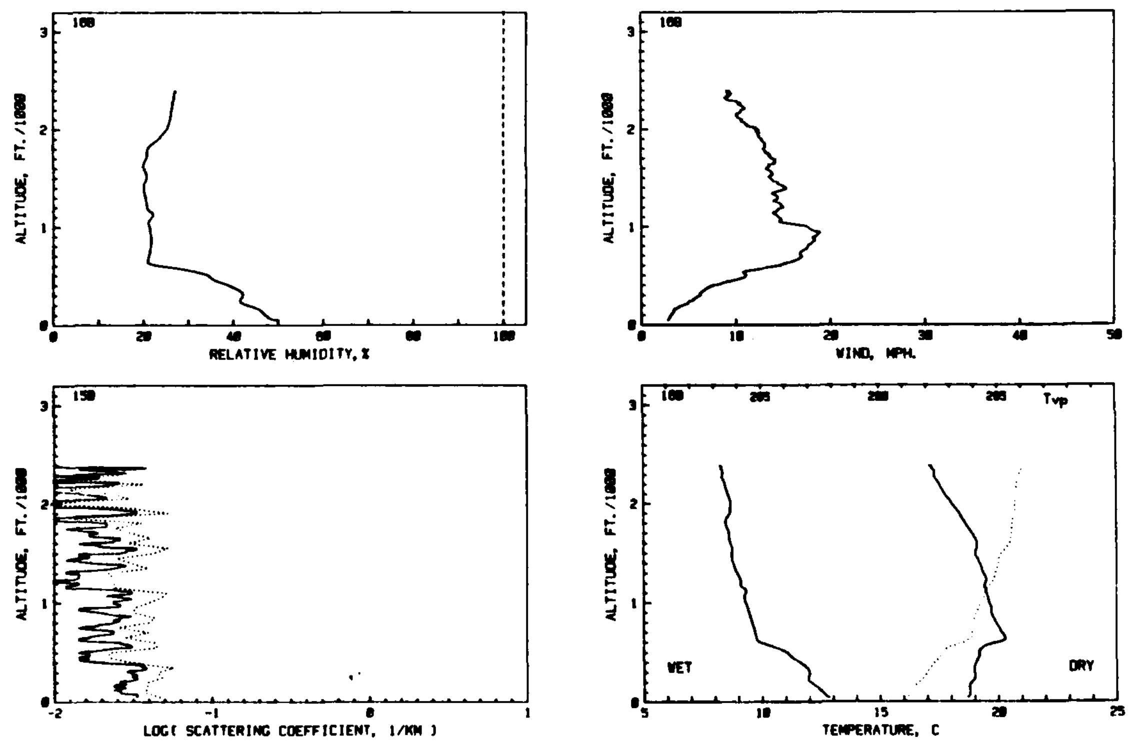
FLIGHT 16A, Oct.26

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	71135	17.2	13.9	69.67	8.4	288.5	3.3	.065	.0004
2	100	71222	17.7	13.8	64.98	8.0	289.1	4.1	.044	.0012
3	150	71301	17.8	13.5	61.19	7.6	289.4	4.6	.055	.0022
4	200	71333	18.2	13.0	54.98	7.0	289.9	6.8	.035	.0027
5	250	71356	18.4	12.5	49.06	6.4	290.3	7.3	.049	.0032
6	300	71435	18.5	12.3	46.69	6.1	290.6	7.9	.035	.0041
7	350	71508	18.7	12.1	44.55	5.9	290.9	10.6	.025	.0044
8	400	71540	18.8	12.0	43.48	5.8	291.1	12.1	.021	.0046
9	450	71603	18.7	11.9	43.06	5.7	291.2	13.9	.037	.0051
10	500	71643	18.9	11.7	40.48	5.5	291.5	12.1	.021	.0055
11	550	71722	19.0	11.4	38.06	5.2	291.7	16.3	.030	.0059
12	600	71754	19.0	11.2	36.22	4.9	291.9	17.2	.023	.0063
13	650	71833	19.5	10.6	30.20	4.2	292.6	19.8	.023	.0066
14	700	71912	19.9	10.1	24.60	3.6	293.1	22.4	.030	.0070
15	750	71943	20.1	9.6	20.56	3.0	293.5	22.9	.028	.0074
16	800	72015	20.1	9.5	19.96	2.9	293.6	23.0	.028	.0078
17	850	72054	20.1	9.5	20.31	3.0	293.7	22.0	.022	.0082
18	900	72125	20.0	9.6	21.35	3.1	293.8	21.9	.029	.0086
19	950	72204	19.8	9.6	22.38	3.2	293.8	21.0	.015	.0090
20	1000	72251	19.7	9.7	23.41	3.4	293.8	20.0	.037	.0095
21	1050	72336	19.8	9.6	22.71	3.3	294.0	19.9	.032	.0100
22	1100	72414	19.7	9.5	22.04	3.2	294.1	19.7	.016	.0103
23	1150	72444	19.7	9.3	21.09	3.0	294.2	20.0	.006	.0105
24	1200	72522	19.6	9.1	20.69	3.0	294.2	19.1	.015	.0107
25	1250	72601	19.5	9.1	20.80	3.0	294.3	19.2	.011	.0109
26	1300	72638	19.4	9.0	20.79	3.0	294.4	19.2	.011	.0111
27	1350	72716	19.3	9.0	20.91	3.0	294.4	18.5	.012	.0113
28	1400	72755	19.2	9.0	21.36	3.0	294.5	18.6	.009	.0113
29	1450	72833	19.0	9.0	22.12	3.1	294.5	17.3	.016	.0115
30	1500	72919	18.9	9.0	22.99	3.2	294.5	16.6	.034	.0123
31	1550	72951	18.8	9.0	23.73	3.3	294.5	16.8	.025	.0126
32	1600	73037	18.6	9.0	24.71	3.4	294.5	16.2	.015	.0128
33	1650	73123	18.4	9.1	25.80	3.5	294.5	16.8	.027	.0133
34	1700	73153	18.3	9.1	26.32	3.6	294.5	16.4	.006	.0134
35	1750	73247	18.2	9.1	26.97	3.6	294.5	16.3	.020	.0136
36	1800	73326	18.1	9.0	27.19	3.6	294.6	15.8	.030	.0140
37	1850	73406	18.0	9.0	27.44	3.7	294.6	15.9	.024	.0144
38	1900	73508	17.8	8.9	27.60	3.6	294.6	15.7	.008	.0147
39	1950	73603	17.7	8.8	27.72	3.6	294.6	15.7	.030	.0150
40	2000	73705	17.7	8.7	27.34	3.6	294.8	13.9	.016	.0153
41	2050	73815	17.7	8.6	26.57	3.5	294.9	13.0	.015	.0156
42	2100	73922	17.6	8.5	26.21	3.4	295.0	11.2	.016	.0159
43	2150	74059	17.6	8.5	26.23	3.4	295.1	9.6	.016	.0161
44	2200	74307	17.6	8.5	26.30	3.5	295.3	8.3	.008	.0163
45	2250	74452	17.5	8.5	26.63	3.5	295.3	8.0	.015	.0165
46	2300	74637	17.4	8.4	26.91	3.5	295.4	9.2	.017	.0166
47	2350	74933	17.2	8.3	27.14	3.5	295.3	7.3	.003	.0168



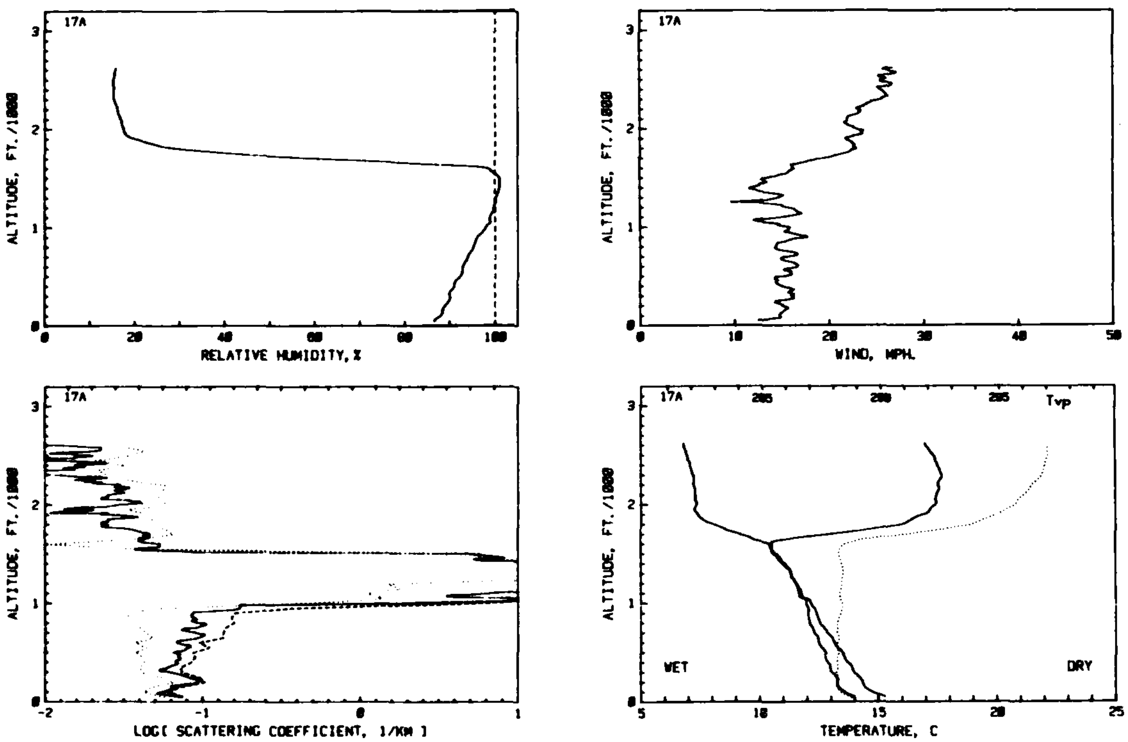
FLIGHT 16B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
47	2350	80035	17.3	8.3	26.91	3.5	295.4	9.4	.017	.0003
46	2300	80157	17.3	8.3	26.81	3.5	295.3	9.2	.016	.0007
45	2250	80312	17.4	8.4	26.56	3.5	295.2	10.4	.007	.0009
44	2200	80359	17.5	8.4	26.38	3.5	295.2	10.7	.023	.0013
43	2150	80438	17.6	8.5	26.23	3.4	295.1	10.1	.008	.0014
42	2100	80516	17.7	8.6	26.07	3.4	295.1	10.7	.015	.0016
41	2050	80603	17.9	8.6	25.77	3.4	295.1	11.1	.018	.0018
40	2000	80648	18.0	8.7	25.39	3.4	295.1	12.2	.005	.0020
39	1950	80744	18.2	8.7	24.47	3.3	295.1	12.4	.019	.0021
38	1900	80823	18.4	8.7	23.70	3.2	295.1	12.7	.032	.0026
37	1850	80911	18.5	8.5	22.20	3.0	295.1	13.1	.008	.0029
36	1800	80944	18.6	8.5	21.16	2.9	295.1	13.0	.022	.0032
35	1750	81016	18.7	8.5	20.90	2.9	295.1	13.3	.015	.0034
34	1700	81102	18.9	8.6	20.76	2.9	295.0	13.8	.019	.0036
33	1650	81134	19.0	8.6	20.26	2.9	295.0	14.1	.024	.0039
32	1600	81212	19.1	8.7	20.04	2.8	295.0	13.2	.018	.0043
31	1550	81252	19.1	8.8	20.49	2.9	294.8	13.8	.032	.0045
30	1500	81324	19.0	8.7	20.65	2.9	294.6	13.6	.026	.0050
29	1450	81403	19.1	8.7	20.30	2.9	294.5	14.4	.015	.0052
28	1400	81442	19.2	8.8	20.13	2.8	294.5	15.3	.019	.0054
27	1350	81514	19.3	8.9	20.19	2.9	294.4	14.1	.024	.0060
26	1300	81545	19.4	9.0	20.40	2.9	294.4	14.4	.013	.0061
25	1250	81623	19.5	9.1	20.60	2.9	294.3	14.4	.014	.0064
24	1200	81653	19.5	9.1	20.75	3.0	294.2	15.0	.014	.0064
23	1150	81723	19.4	9.2	21.59	3.1	294.0	14.1	.015	.0067
22	1100	81804	19.5	9.3	22.02	3.1	293.9	14.5	.031	.0073
21	1050	81835	19.6	9.3	21.17	3.0	293.8	14.6	.029	.0076
20	1000	81914	19.6	9.3	21.29	3.0	293.7	17.5	.024	.0080
19	950	81954	19.7	9.4	21.47	3.1	293.6	18.5	.019	.0084
18	900	82034	19.7	9.4	21.64	3.1	293.5	18.4	.019	.0087
17	850	82105	19.8	9.5	21.71	3.1	293.4	18.2	.026	.0092
16	800	82137	19.9	9.6	21.66	3.1	293.4	17.6	.024	.0094
15	750	82217	20.0	9.7	21.52	3.1	293.4	17.0	.015	.0097
14	700	82249	20.1	9.7	21.30	3.1	293.3	17.0	.024	.0100
13	650	82329	20.3	9.8	21.00	3.1	293.3	16.2	.017	.0103
12	600	82401	20.0	10.0	22.59	3.3	293.0	14.6	.026	.0106
11	550	82433	19.4	10.6	29.64	4.1	292.2	11.7	.028	.0111
10	500	82513	19.2	11.1	34.14	4.7	291.8	11.0	.014	.0113
9	450	82546	19.2	11.3	35.72	4.9	291.7	9.8	.015	.0116
8	400	82619	19.0	11.6	38.66	5.2	291.4	7.8	.020	.0117
7	350	82651	19.0	11.9	41.09	5.5	291.1	6.7	.038	.0123
6	300	82723	19.0	12.0	42.12	5.7	291.0	6.3	.031	.0128
5	250	82757	19.0	12.0	41.63	5.6	290.9	5.4	.033	.0133
4	200	82828	18.9	12.1	42.80	5.7	290.6	4.4	.026	.0137
3	150	82900	18.8	12.4	45.80	6.1	290.3	3.5	.027	.0141
2	100	82932	18.8	12.6	46.97	6.2	290.2	3.1	.026	.0146
1	50	83003	18.7	12.8	48.94	6.4	290.0	2.8	.033	.0149



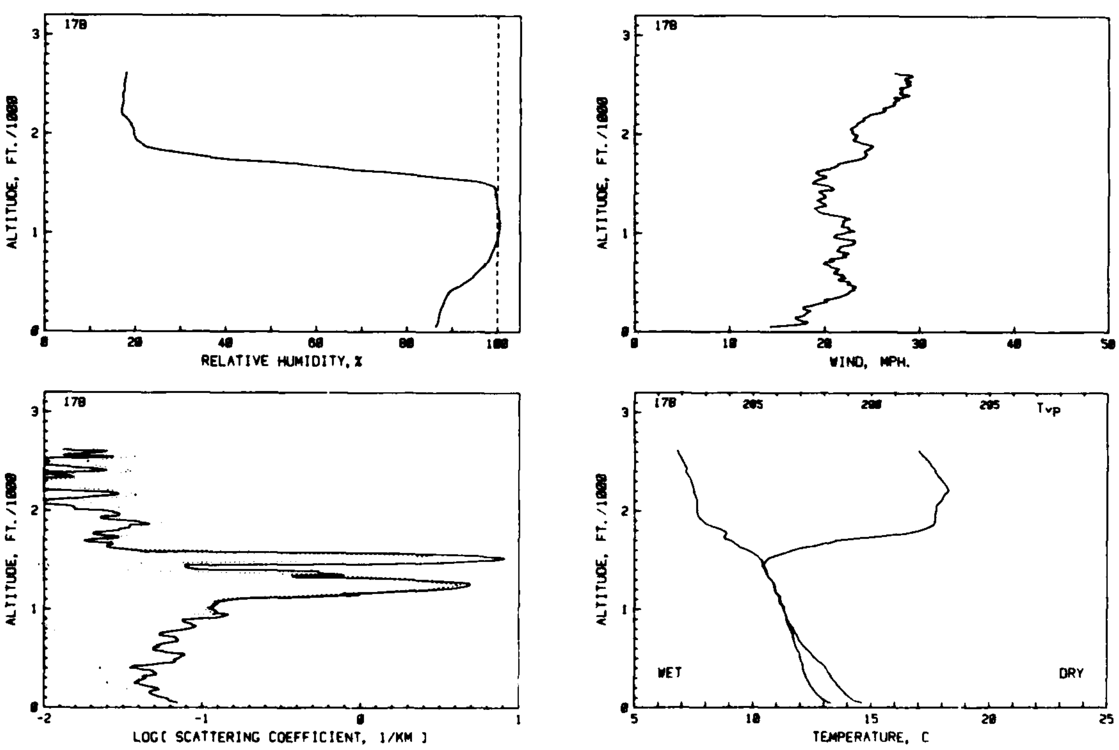
FLIGHT 17A, Oct.26

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	140953	15.3	14.0	86.67	9.3	287.1	12.7	.072	.0005
2	100	141052	14.7	13.6	87.95	9.1	286.8	14.7	.057	.0018
3	150	141125	14.4	13.3	88.47	9.0	286.6	15.2	.065	.0030
4	200	141157	14.3	13.3	88.94	9.0	286.6	15.0	.093	.0042
5	250	141229	14.2	13.2	89.84	9.0	286.7	14.8	.081	.0052
6	300	141303	14.0	13.0	90.12	8.9	286.6	16.0	.063	.0066
7	350	141336	13.9	13.0	90.26	8.9	286.7	16.0	.061	.0075
8	400	141401	13.7	12.9	91.11	8.9	286.6	15.0	.069	.0084
9	450	141433	13.6	12.8	91.36	8.9	286.6	14.5	.072	.0096
10	500	141505	13.5	12.8	92.34	8.9	286.7	15.2	.066	.0103
11	550	141545	13.3	12.6	92.80	8.9	286.6	15.9	.081	.0118
12	600	141618	13.1	12.5	92.91	8.8	286.6	16.6	.069	.0128
13	650	141700	13.1	12.5	93.50	8.8	286.7	15.5	.095	.0142
14	700	141733	12.9	12.3	94.04	8.8	286.6	15.8	.091	.0155
15	750	141805	12.7	12.2	94.66	8.8	286.7	15.7	.089	.0163
16	800	141837	12.5	12.1	95.26	8.8	286.6	14.4	.095	.0183
17	850	141901	12.5	12.1	95.65	8.8	286.7	15.2	.088	.0196
18	900	141933	12.4	12.1	96.17	8.8	286.8	17.7	.087	.0210
19	950	142005	12.3	12.1	97.21	8.8	286.8	15.3	.173	.0233
20	1000	142045	12.2	12.0	97.97	8.8	286.8	15.8	2.041	.0325
21	1050	142131	11.9	11.8	99.01	8.8	286.8	13.0	9.435	.1915
22	1100	142212	11.8	11.7	98.86	8.7	286.8	14.9	6.492	.2833
23	1150	142237	11.7	11.6	99.45	8.7	286.8	16.7	17.602	.5178
24	1200	142309	11.5	11.5	99.74	8.7	286.8	15.5	23.791	.8951
25	1250	142341	11.4	11.4	100.06	8.7	286.9	11.7	20.593	1.1309
26	1300	142444	11.3	11.3	100.21	8.6	286.9	14.7	20.082	1.4898
27	1350	142509	11.2	11.3	100.66	8.6	286.9	13.4	23.791	1.8388
28	1400	142548	11.0	11.1	100.91	8.5	286.9	11.9	20.210	2.1595
29	1450	142629	10.8	10.9	100.99	8.5	286.8	13.2	6.242	2.2449
30	1500	142701	10.6	10.7	101.02	8.4	286.8	13.4	5.175	2.3082
31	1550	142734	10.5	10.5	99.91	8.2	286.8	15.6	.040	2.3088
32	1600	142806	10.5	10.4	98.59	8.1	287.0	16.2	.054	2.3096
33	1650	142901	11.3	9.7	82.84	7.2	287.9	17.0	.040	2.3103
34	1700	142935	13.0	9.2	61.30	5.9	289.9	19.6	.047	2.3110
35	1750	143001	14.7	8.6	42.94	4.7	291.7	21.8	.035	2.3115
36	1800	143033	16.0	8.1	31.14	3.7	293.2	22.8	.024	2.3118
37	1850	143114	16.4	7.6	25.61	3.1	293.7	22.4	.026	2.3123
38	1900	143146	16.9	7.4	21.71	2.7	294.4	21.8	.024	2.3128
39	1950	143236	17.2	7.3	19.74	2.5	294.8	23.5	.018	2.3131
40	2000	143315	17.4	7.3	19.36	2.5	295.2	22.7	.030	2.3135
41	2050	143403	17.4	7.3	19.03	2.5	295.3	21.8	.030	2.3140
42	2100	143442	17.5	7.3	18.86	2.5	295.6	21.9	.026	2.3144
43	2150	143515	17.6	7.3	18.44	2.4	295.8	23.1	.029	2.3148
44	2200	143548	17.5	7.2	18.23	2.4	295.9	22.9	.030	2.3152
45	2250	143643	17.6	7.2	17.97	2.4	296.2	24.0	.017	2.3155
46	2300	143731	17.7	7.2	17.58	2.3	296.4	25.6	.013	2.3156
47	2350	143803	17.6	7.1	17.59	2.3	296.4	26.0	.011	2.3157
48	2400	143842	17.5	7.1	17.63	2.3	296.5	25.4	.017	2.3160
49	2450	143928	17.4	7.0	17.56	2.3	296.5	26.6	.011	2.3161
50	2500	144031	17.3	6.9	17.64	2.3	296.6	25.7	.018	2.3163
51	2550	144135	17.2	6.9	17.97	2.3	296.6	26.3	.022	2.3166
52	2600	144231	17.0	6.8	18.22	2.4	296.6	25.8	.014	2.3170



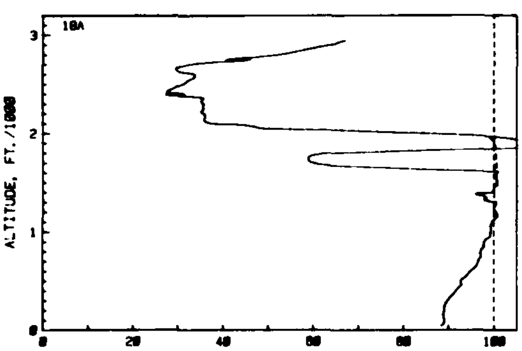
FLIGHT 17B, Oct.27

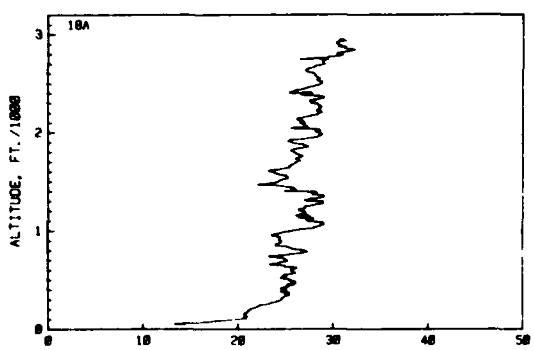
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
52	2600	144357	17.0	6.8	18.03	2.3	296.1	29.1	.024	.0003
51	2550	144452	17.2	6.9	17.95	2.3	296.1	28.6	.025	.0006
50	2500	144627	17.4	7.0	17.55	2.3	296.2	28.9	.011	.0009
49	2450	144722	17.6	7.1	17.71	2.3	296.1	28.1	.013	.0011
48	2400	144810	17.7	7.2	17.29	2.3	296.1	28.9	.022	.0015
47	2350	144913	17.8	7.3	17.35	2.3	296.1	27.7	.014	.0016
46	2300	144953	18.0	7.4	17.33	2.4	296.2	27.4	.006	.0018
45	2250	145042	18.2	7.5	17.01	2.3	296.2	26.3	.006	.0019
44	2200	145133	18.3	7.5	17.01	2.3	296.1	24.8	.017	.0021
43	2150	145213	18.1	7.6	18.10	2.4	295.7	24.1	.024	.0027
42	2100	145305	17.9	7.6	18.95	2.5	295.5	23.4	.010	.0027
41	2050	145334	17.7	7.6	19.64	2.6	295.1	22.8	.014	.0029
40	2000	145407	17.7	7.7	19.80	2.6	295.0	23.2	.024	.0030
39	1950	145448	17.7	7.7	20.10	2.6	294.8	23.1	.030	.0033
38	1900	145537	17.7	7.9	21.35	2.8	294.6	24.4	.032	.0039
37	1850	145619	17.5	8.2	24.06	3.1	294.3	24.6	.035	.0044
36	1800	145652	17.0	8.7	30.51	3.8	293.6	24.5	.030	.0048
35	1750	145734	15.7	8.8	38.30	4.4	292.2	23.7	.023	.0053
34	1700	145824	13.5	9.1	55.54	5.6	289.8	21.4	.019	.0055
33	1650	145857	12.7	9.4	64.93	6.2	288.9	20.5	.026	.0060
32	1600	145931	11.7	9.8	78.66	7.0	287.7	19.2	.035	.0064
31	1550	150004	11.1	10.1	89.17	7.6	286.9	19.8	4.572	.0251
30	1500	150039	10.6	10.4	97.48	8.0	286.2	18.9	6.628	.2063
29	1450	150103	10.5	10.4	99.44	8.1	285.9	21.0	.091	.2069
28	1400	150143	10.6	10.5	99.55	8.1	285.9	19.6	.221	.2083
27	1350	150216	10.6	10.6	99.90	8.2	285.8	19.8	.717	.2203
26	1300	150255	10.8	10.8	99.94	8.3	285.8	19.8	2.259	.2393
25	1250	150327	10.9	10.9	100.28	8.3	285.8	18.9	4.923	.3207
24	1200	150352	10.9	11.0	100.40	8.3	285.7	19.8	2.965	.3868
23	1150	150433	11.1	11.1	100.37	8.4	285.6	22.6	.966	.3901
22	1100	150513	11.1	11.1	100.58	8.4	285.5	21.9	.157	.3997
21	1050	150546	11.2	11.2	100.46	8.4	285.5	22.4	.116	.4014
20	1000	150625	11.3	11.3	100.31	8.5	285.4	22.0	.119	.4031
19	950	150705	11.4	11.4	100.10	8.5	285.4	21.6	.142	.4048
18	900	150746	11.4	11.4	99.70	8.5	285.3	23.1	.089	.4066
17	850	150818	11.6	11.5	99.22	8.5	285.2	21.6	.085	.4084
16	800	150843	11.7	11.6	98.76	8.5	285.2	22.4	.082	.4093
15	750	150917	11.8	11.7	98.30	8.5	285.2	21.5	.054	.4103
14	700	150959	11.9	11.7	97.69	8.5	285.2	20.0	.069	.4114
13	650	151023	12.1	11.8	96.76	8.5	285.2	21.2	.056	.4122
12	600	151104	12.3	11.9	95.56	8.5	285.2	21.0	.049	.4130
11	550	151137	12.5	12.0	94.59	8.5	285.3	22.2	.070	.4138
10	500	151218	12.6	12.0	93.03	8.4	285.3	22.7	.071	.4148
9	450	151250	12.9	12.1	91.12	8.4	285.4	23.0	.055	.4156
8	400	151331	13.1	12.1	89.40	8.3	285.4	22.5	.036	.4163
7	350	151356	13.2	12.2	88.69	8.3	285.4	21.3	.051	.4169
6	300	151429	13.4	12.3	88.22	8.3	285.4	20.1	.044	.4176
5	250	151501	13.5	12.4	87.75	8.4	285.4	17.8	.037	.4181
4	200	151532	13.7	12.5	87.32	8.4	285.5	18.2	.051	.4187
3	150	151605	13.9	12.7	87.06	8.5	285.5	17.0	.047	.4196
2	100	151639	14.1	12.9	86.89	8.6	285.6	18.2	.059	.4205
1	50	151721	14.7	13.4	86.28	8.8	286.0	13.0	.073	.4212

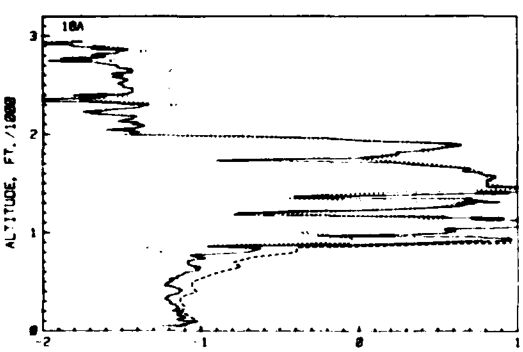


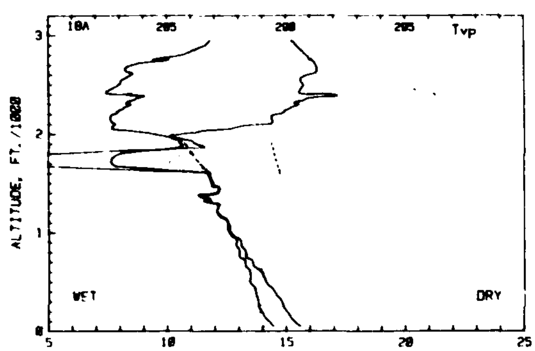
FLIGHT 18A, Oct.26

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	193937	15.6	14.5	88.48	9.7	287.4	14.1	.062	.0003
2	100	194018	15.3	14.3	89.16	9.6	287.3	19.7	.085	.0020
3	150	194043	15.2	14.1	88.89	9.5	287.3	20.7	.076	.0031
4	200	194116	15.0	14.0	89.11	9.4	287.3	21.3	.068	.0040
5	250	194148	14.9	13.8	89.22	9.4	287.3	22.8	.071	.0054
6	300	194220	14.8	13.8	89.85	9.4	287.3	24.6	.063	.0064
7	350	194253	14.6	13.7	90.80	9.4	287.3	25.4	.061	.0069
8	400	194326	14.5	13.7	91.71	9.4	287.3	25.1	.073	.0085
9	450	194350	14.3	13.6	92.76	9.5	287.3	25.8	.064	.0090
10	500	194438	14.1	13.5	92.81	9.4	287.3	25.4	.064	.0100
11	550	194525	14.1	13.5	94.03	9.5	287.4	25.0	.071	.0111
12	600	194556	13.9	13.5	94.95	9.5	287.4	25.6	.081	.0124
13	650	194634	13.7	13.3	96.12	9.5	287.3	24.7	.098	.0136
14	700	194713	13.6	13.3	96.66	9.5	287.3	25.2	.083	.0152
15	750	194800	13.3	13.0	97.24	9.4	287.2	24.7	.099	.0166
16	800	194823	13.3	13.0	97.14	9.4	287.3	26.8	.190	.0175
17	850	194902	13.1	12.9	97.84	9.4	287.3	24.0	.169	.0215
18	900	194926	13.1	12.9	97.92	9.4	287.4	24.5	3.473	.0447
19	950	194958	12.9	12.8	99.22	9.4	287.4	23.7	7.062	.0379
20	1000	195044	12.7	12.6	99.34	9.3	287.3	25.8	3.556	.0693
21	1050	195124	12.6	12.6	99.28	9.3	287.4	28.7	7.400	.1516
22	1100	195148	12.5	12.5	99.77	9.3	287.5	27.4	15.088	.4063
23	1150	195243	12.3	12.4	100.68	9.2	287.4	26.3	3.613	.3316
24	1200	195329	12.1	12.1	100.33	9.1	287.3	26.8	.237	.3354
25	1250	195400	12.2	12.1	99.92	9.1	287.5	27.4	2.639	.3669
26	1300	195456	11.9	11.9	100.15	9.0	287.5	28.3	5.158	.4203
27	1330	195551	11.7	11.6	98.31	8.7	287.4	29.1	1.657	.4197
28	1400	195718	12.1	12.1	99.42	9.1	288.0	25.8	8.439	.3344
29	1450	195813	12.2	12.2	100.04	9.2	288.2	25.0	10.403	.5658
30	1500	195915	11.9	11.9	100.60	9.1	288.0	24.3	6.486	.6636
31	1550	195931	11.8	11.9	100.51	9.0	288.1	25.2	7.004	.7135
32	1600	200005	11.8	11.8	100.60	9.0	288.2	23.6	5.922	.7700
33	1650	200045	9.0	7.1	76.55	5.9	285.6	25.4	4.687	.8795
34	1700	200109	7.7	4.5	60.68	4.1	284.4	26.3	1.982	.8802
35	1750	200125	7.7	4.4	59.54	4.1	284.5	26.6	.739	.8829
36	1800	200151	8.0	5.0	63.61	4.5	285.0	25.9	1.787	.8735
37	1850	200215	10.1	10.4	104.08	8.5	287.3	27.3	3.081	.8884
38	1900	200247	10.5	11.2	108.07	9.1	287.9	25.7	3.894	.9440
39	1950	200334	10.2	10.5	103.12	8.5	287.7	28.1	.784	.9882
40	2000	200407	10.7	9.4	85.69	7.2	288.3	28.5	.039	.9885
41	2050	200548	12.6	7.7	50.36	4.8	290.4	27.4	.034	.9889
42	2100	200658	14.3	7.8	40.01	4.3	292.3	26.6	.037	.9895
43	2150	200753	14.4	7.6	37.41	4.0	292.5	26.9	.036	.9903
44	2200	200832	14.6	7.8	37.32	4.1	292.9	28.7	.026	.9908
45	2250	200941	15.1	8.1	37.27	4.2	293.6	28.7	.026	.9912
46	2300	201036	15.5	8.5	37.43	4.4	294.2	28.0	.041	.9917
47	2350	201152	15.8	8.7	37.22	4.4	294.6	29.0	.010	.9918
48	2400	201357	16.8	8.4	29.96	3.8	295.7	27.7	.023	.9921
49	2450	201548	15.6	7.6	30.55	3.6	294.7	27.2	.037	.9931
50	2500	201612	15.7	8.0	32.93	3.9	295.0	28.8	.032	.9934
51	2550	201637	15.6	8.1	34.61	4.1	295.0	28.6	.035	.9940
52	2600	201700	16.0	8.5	35.60	4.3	295.5	28.1	.031	.9943
53	2650	201746	16.3	8.2	31.70	3.9	296.0	27.4	.037	.9950
54	2700	201809	16.2	8.6	34.46	4.3	296.1	29.1	.029	.9953
55	2750	201912	16.1	10.0	46.18	5.7	296.1	28.6	.016	.9955
56	2800	202052	15.8	10.6	53.28	6.5	296.0	30.5	.021	.9958
57	2850	202130	15.6	11.7	59.05	7.1	295.9	32.0	.032	.9962
58	2900	202233	15.4	11.6	64.65	7.7	295.9	30.5	.016	.9966



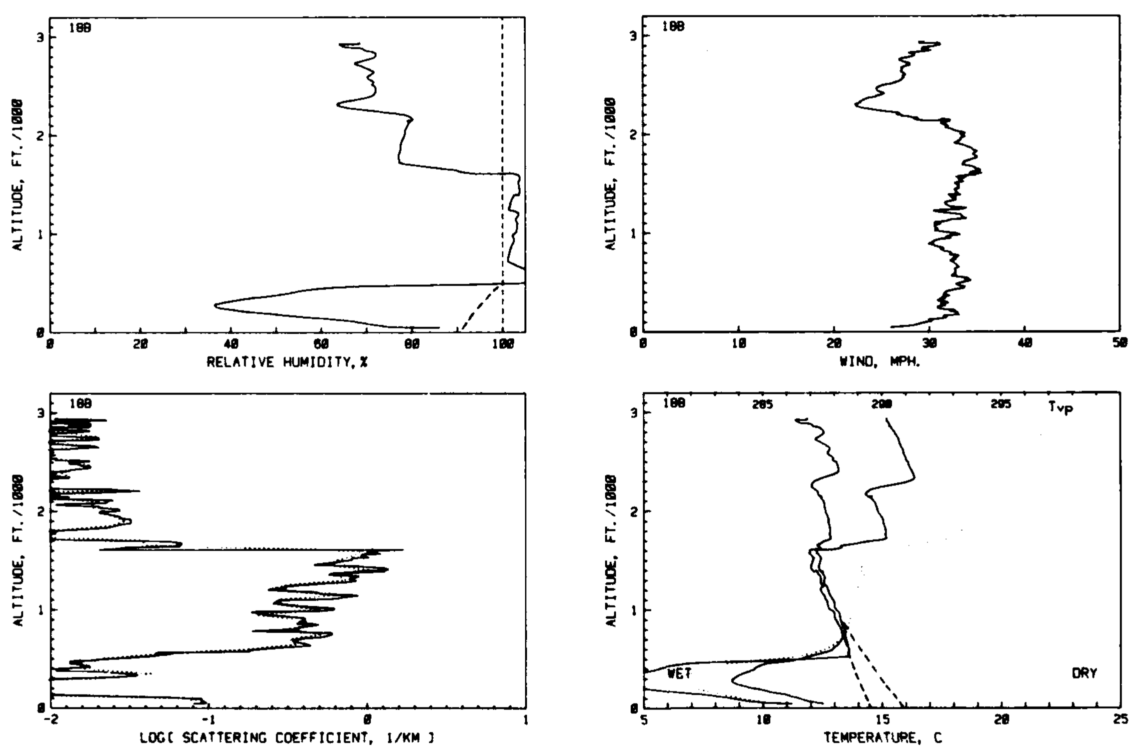






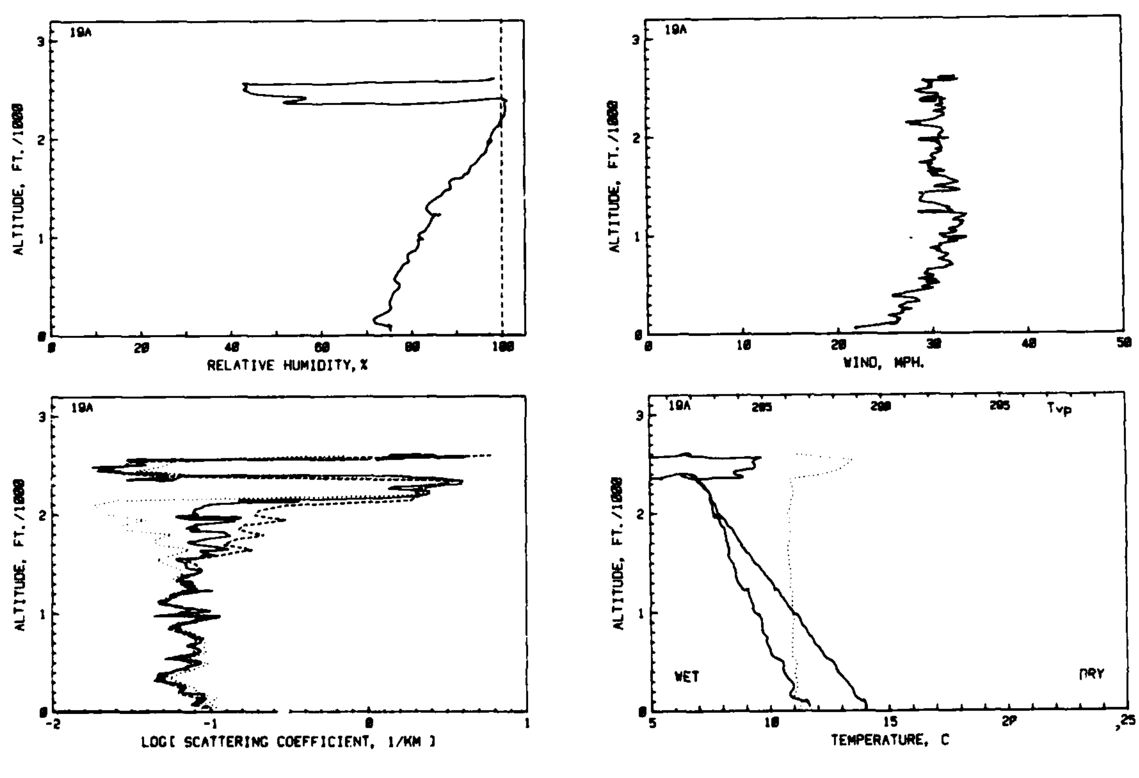
FLIGHT 18B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
58	2900	202534	15.2	11.5	65.06	7.6	295.2	30.7	.011	.0002
57	2850	202735	15.4	12.4	71.26	8.4	295.2	29.7	.004	.0005
56	2800	202836	15.5	12.6	71.92	8.6	295.2	28.4	.012	.0008
55	2750	202913	15.6	12.3	68.81	8.2	295.2	26.9	.018	.0011
54	2700	203007	15.7	12.4	69.06	8.3	295.1	27.8	.008	.0011
53	2650	203038	15.8	12.8	71.50	8.6	295.0	27.0	.019	.0013
52	2600	203115	15.9	12.7	70.42	8.5	295.0	27.4	.005	.0013
51	2550	203153	16.0	12.9	71.36	8.7	294.9	27.0	.008	.0014
50	2500	203303	16.1	13.1	71.86	8.8	294.9	25.1	.015	.0015
49	2450	203341	16.1	13.2	72.07	8.8	294.8	24.5	.018	.0018
48	2400	203418	16.3	13.2	71.14	8.8	294.7	24.8	.011	.0020
47	2350	203450	16.3	12.7	66.23	8.2	294.7	23.1	.012	.0022
46	2300	203513	16.1	12.2	63.94	7.7	294.2	22.3	.004	.0023
45	2250	203537	15.1	12.0	70.92	8.0	293.1	24.4	-.000	.0023
44	2200	203631	14.4	12.3	78.96	8.6	292.2	26.9	.027	.0026
43	2150	203754	14.4	12.4	79.99	8.6	292.1	28.7	.006	.0027
42	2100	204043	14.6	12.5	79.05	8.7	292.2	31.8	.023	.0029
41	2050	204121	14.8	12.6	78.51	8.7	292.1	32.5	.019	.0030
40	2000	204202	14.8	12.6	78.40	8.7	292.0	33.4	.024	.0035
39	1950	204234	14.9	12.7	77.89	8.7	292.0	33.3	.027	.0038
38	1900	204300	15.0	12.8	77.53	8.7	292.0	33.4	.032	.0043
37	1850	204324	15.1	12.8	77.42	8.7	291.9	34.5	.026	.0049
36	1800	204357	15.2	12.8	77.09	8.7	291.8	34.6	.011	.0052
35	1750	204420	15.1	12.8	77.16	8.6	291.6	34.5	.007	.0053
34	1700	204443	14.7	12.6	79.78	8.6	291.0	33.5	.043	.0055
33	1650	204516	13.3	12.3	88.83	8.8	289.5	35.2	.065	.0077
32	1600	204656	12.0	12.3	103.22	9.4	288.0	34.7	1.085	.0381
31	1550	204737	12.0	12.4	103.77	9.4	287.9	33.1	.931	.0484
30	1500	204810	12.1	12.4	103.57	9.4	287.8	32.9	.744	.0601
29	1450	204835	12.0	12.3	103.75	9.4	287.6	32.9	.673	.0639
28	1400	204915	12.1	12.4	103.63	9.4	287.5	32.9	1.212	.0835
27	1350	205046	12.4	12.6	102.02	9.4	287.6	32.6	.739	.0935
26	1300	205120	12.4	12.6	101.70	9.4	287.5	31.7	.843	.1170
25	1250	205152	12.5	12.6	101.28	9.4	287.4	33.6	.364	.1227
24	1200	205249	12.4	12.7	103.52	9.5	287.2	32.5	.274	.1281
23	1150	205321	12.5	12.8	102.89	9.5	287.2	33.7	.758	.1314
22	1100	205410	12.7	12.9	103.22	9.6	287.1	30.9	.325	.1446
21	1050	205442	12.7	13.0	103.13	9.6	287.1	30.8	.324	.1497
20	1000	205515	12.8	13.1	102.60	9.6	287.0	32.8	.572	.1613
19	950	205611	13.0	13.2	102.44	9.7	287.1	32.1	.229	.1640
18	900	205643	13.0	13.2	102.20	9.7	287.0	30.2	.403	.1695
17	850	205724	13.2	13.3	101.74	9.7	286.9	31.5	.493	.1760
16	800	205748	13.3	13.4	101.45	9.7	286.9	32.3	.365	.1840
15	750	205827	13.3	13.4	101.14	9.7	286.8	32.6	.593	.1980
14	700	205900	13.3	13.5	102.03	9.8	286.6	32.6	.369	.1998
13	650	210013	13.1	13.5	104.54	9.9	286.3	32.9	.413	.2131
12	600	210028	12.9	13.6	107.85	10.0	285.9	32.7	.217	.2142
11	550	210109	12.3	13.6	115.29	10.3	285.1	33.8	.056	.2147
10	500	210141	11.6	11.9	103.97	8.9	284.3	33.3	.024	.2152
9	450	210228	10.1	6.7	60.79	4.6	282.6	33.6	.014	.2156
8	400	210259	9.6	5.6	53.00	3.9	282.1	31.7	.012	.2158
7	350	210339	9.1	4.4	44.69	3.2	281.4	31.4	.031	.2162
6	300	210410	8.8	3.5	38.22	2.6	280.9	31.9	.013	.2166
5	250	210449	8.9	3.5	37.42	2.6	280.8	30.9	.001	.2165
4	200	210529	9.7	5.0	46.24	3.4	281.5	32.9	.004	.2166
3	150	210600	10.7	7.0	58.38	4.6	282.4	31.8	.001	.2166
2	100	210632	11.5	8.7	68.90	5.7	283.0	29.6	.081	.2171
1	50	210705	12.5	11.1	84.69	7.5	283.9	26.0	.082	.2190



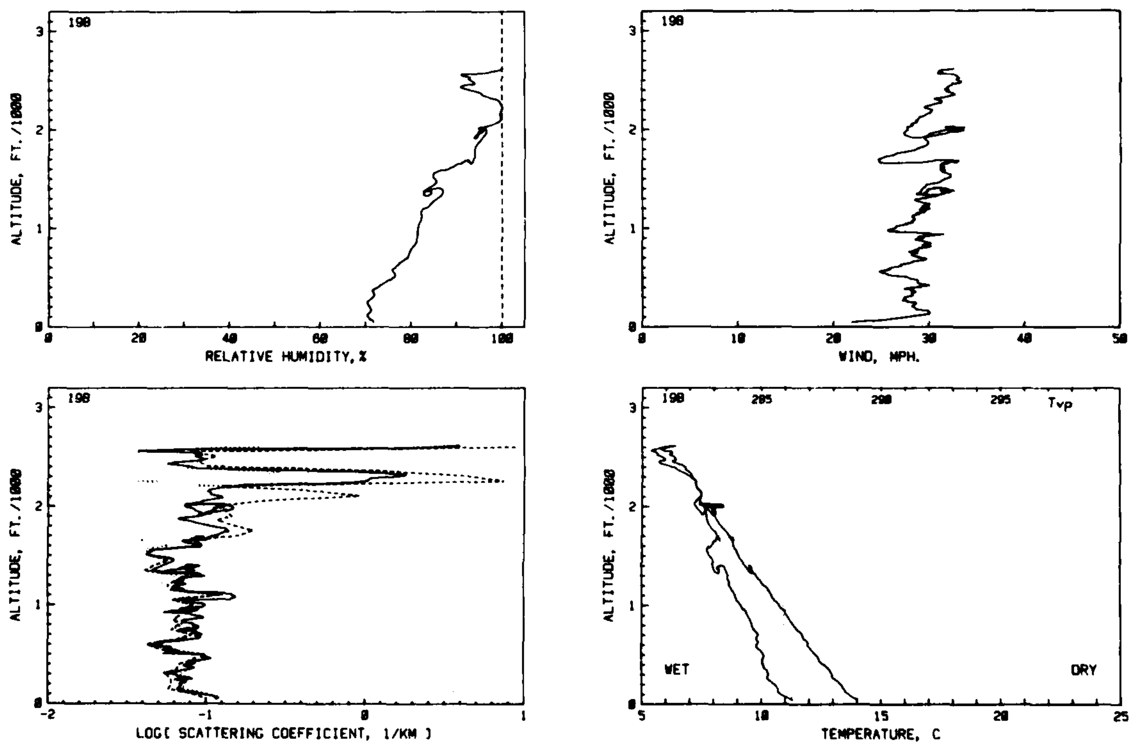
FLIGHT 19A, Oct.26

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	83440	14.0	11.6	75.26	7.3	285.2	21.9	.092	.0007
2	100	83513	14.0	11.5	74.98	7.3	285.3	24.9	.083	.0024
3	150	83652	13.6	10.9	71.61	6.8	285.1	26.5	.088	.0029
4	200	83725	13.5	10.9	72.58	6.9	285.2	26.5	.066	.0041
5	250	83758	13.4	11.0	74.87	7.0	285.2	27.6	.069	.0050
6	300	83831	13.2	10.9	75.31	7.0	285.2	27.1	.055	.0062
7	350	83904	13.0	10.7	75.17	6.9	285.1	28.2	.047	.0067
8	400	83937	12.8	10.6	75.69	6.9	285.1	26.7	.057	.0071
9	450	84010	12.8	10.6	76.32	6.9	285.2	29.6	.072	.0087
10	500	84042	12.6	10.5	77.25	7.0	285.2	29.9	.087	.0102
11	550	84124	12.3	10.2	76.43	6.8	285.0	28.8	.059	.0108
12	600	84205	12.2	10.0	76.32	6.7	285.0	29.1	.083	.0119
13	650	84238	12.0	10.0	77.06	6.7	285.0	30.0	.081	.0131
14	700	84319	11.9	9.9	77.84	6.7	285.0	32.1	.083	.0149
15	750	84352	11.7	9.9	79.37	6.8	285.0	30.6	.085	.0153
16	800	84424	11.6	9.7	79.00	6.7	285.0	31.6	.072	.0167
17	850	84457	11.5	9.7	80.08	6.8	285.1	30.6	.061	.0179
18	900	84539	11.3	9.7	81.38	6.8	285.1	30.7	.068	.0189
19	950	84602	11.2	9.6	81.61	6.8	285.1	32.1	.101	.0205
20	1000	84724	11.0	9.4	81.77	6.7	285.0	30.7	.069	.0216
21	1050	84755	10.8	9.3	82.57	6.8	285.0	32.1	.080	.0224
22	1100	84835	10.7	9.3	83.52	6.8	285.0	33.0	.051	.0234
23	1150	84907	10.5	9.2	84.16	6.8	285.0	32.2	.056	.0244
24	1200	84924	10.4	9.1	84.76	6.8	285.1	33.5	.066	.0253
25	1250	85108	10.2	8.8	83.80	6.6	285.0	32.0	.082	.0248
26	1300	85140	10.1	8.7	83.33	6.6	285.0	30.7	.069	.0262
27	1350	85213	9.9	8.6	84.25	6.6	285.0	28.7	.064	.0267
28	1400	85237	9.8	8.6	85.76	6.6	285.0	29.1	.077	.0282
29	1450	85325	9.6	8.5	87.03	6.7	285.0	32.7	.080	.0290
30	1500	85414	9.4	8.5	88.80	6.7	284.9	31.0	.071	.0299
31	1550	85436	9.3	8.3	88.51	6.6	285.0	32.4	.061	.0309
32	1600	85540	9.1	8.3	91.17	6.8	284.9	30.5	.094	.0322
33	1650	85650	8.9	8.3	92.77	6.8	284.9	31.4	.130	.0343
34	1700	85729	8.8	8.2	93.15	6.8	284.9	29.6	.084	.0363
35	1750	85824	8.6	8.2	94.24	6.8	284.9	30.1	.090	.0376
36	1800	85857	8.5	8.1	95.11	6.9	284.9	29.9	.128	.0389
37	1850	85929	8.4	8.1	96.31	6.9	285.0	31.0	.078	.0393
38	1900	90025	8.2	7.9	96.71	6.8	284.9	30.9	.080	.0416
39	1950	90106	8.1	7.9	97.37	6.8	284.9	29.7	.132	.0432
40	2000	90311	7.9	7.7	97.60	6.8	284.9	30.8	.081	.0440
41	2050	90334	7.8	7.6	97.92	6.8	285.0	31.2	.080	.0455
42	2100	90358	7.7	7.6	98.67	6.8	285.0	29.7	.097	.0459
43	2150	90533	7.5	7.5	99.63	6.8	285.0	28.8	.323	.0481
44	2200	90559	7.5	7.5	100.05	6.8	285.1	31.0	2.275	.0600
45	2250	90625	7.3	7.4	100.73	6.8	285.1	30.4	2.007	.1101
46	2300	90649	7.2	7.2	100.81	6.7	285.1	30.9	2.846	.1157
47	2350	90713	6.9	7.0	100.69	6.6	285.0	30.9	3.471	.2062
48	2400	91056	8.6	4.8	55.73	4.1	286.8	30.6	.054	.2215
49	2450	91153	9.2	4.6	47.76	3.7	287.6	28.7	.020	.2220
50	2500	91242	9.4	4.3	42.90	3.3	288.0	29.8	.030	.2223
51	2550	91330	9.5	4.3	43.25	3.4	288.2	29.6	.033	.2229
52	2600	91627	6.5	6.3	97.50	6.3	285.3	31.3	2.589	.2220



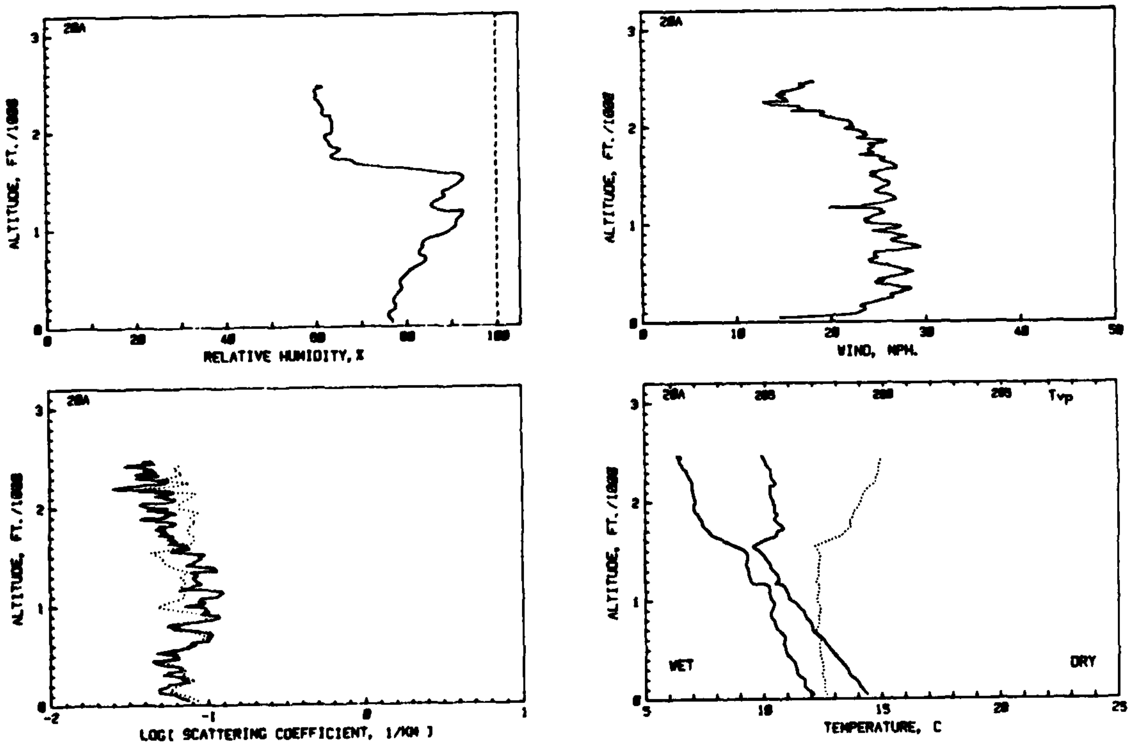
FLIGHT 19B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
52	2600	91740	6.1	6.0	99.52	6.3	285.0	31.7	2.585	.0730
51	2550	91828	6.3	5.6	91.07	5.7	284.8	32.8	.068	.0734
50	2500	91916	6.3	5.8	92.96	5.9	284.8	33.0	.088	.0758
49	2450	91957	6.3	5.7	92.42	5.8	284.6	32.5	.069	.0771
48	2400	92021	6.8	6.3	92.72	6.0	284.9	31.9	.079	.0787
47	2350	92110	7.0	6.6	95.75	6.3	285.0	32.7	.848	.0835
46	2300	92143	7.1	7.0	98.96	6.6	285.0	31.0	1.439	.0940
45	2250	92223	7.3	7.2	99.85	6.7	285.0	30.4	.941	.1175
44	2200	92255	7.3	7.3	100.03	6.7	284.9	30.2	.146	.1205
43	2150	92318	7.5	7.4	99.58	6.8	284.9	29.7	.103	.1222
42	2100	92342	7.5	7.5	99.83	6.8	284.8	28.9	.120	.1231
41	2050	92406	7.4	7.3	98.00	6.6	284.6	28.2	.094	.1258
40	2000	92429	7.6	7.2	95.31	6.5	284.6	27.8	.073	.1262
39	1950	92454	7.8	7.4	94.66	6.5	284.7	27.4	.087	.1282
38	1900	92910	8.1	7.7	95.45	6.7	284.8	29.6	.089	.1301
37	1850	92926	8.2	7.7	94.49	6.7	284.7	29.9	.079	.1313
36	1800	92950	8.3	7.8	94.01	6.7	284.7	28.7	.106	.1324
35	1750	93014	8.5	8.0	94.01	6.8	284.8	26.5	.139	.1341
34	1700	93047	8.7	8.2	93.81	6.8	284.8	24.8	.114	.1361
33	1650	93303	8.8	8.0	91.14	6.7	284.8	31.7	.071	.1360
32	1600	93352	8.8	7.9	88.45	6.5	284.7	31.3	.091	.1372
31	1550	93439	9.0	7.7	85.02	6.2	284.6	32.0	.046	.1380
30	1500	93455	9.0	7.8	85.19	6.3	284.6	31.9	.047	.1389
29	1450	93519	9.2	8.0	85.40	6.3	284.5	30.5	.062	.1392
28	1400	93535	9.3	8.0	83.76	6.3	284.6	29.4	.053	.1406
27	1350	93552	9.5	8.1	82.78	6.3	284.6	28.8	.048	.1410
26	1300	94020	9.8	8.6	85.83	6.6	284.7	29.3	.093	.1430
25	1250	94102	10.0	8.7	84.47	6.6	284.7	29.6	.073	.1439
24	1200	94158	10.2	8.7	83.01	6.5	284.7	30.1	.065	.1445
23	1150	94255	10.3	8.8	82.16	6.5	284.8	28.6	.071	.1458
22	1100	94335	10.4	8.9	82.23	6.6	284.8	28.5	.149	.1494
21	1050	94359	10.6	9.0	81.75	6.6	284.7	27.9	.073	.1499
20	1000	94439	10.8	9.2	81.51	6.6	284.8	26.4	.099	.1510
19	950	94543	11.0	9.3	81.38	6.7	284.8	29.2	.087	.1534
18	900	94649	11.1	9.4	81.30	6.7	284.8	29.2	.083	.1538
17	850	94714	11.2	9.5	81.14	6.8	284.8	30.0	.075	.1551
16	800	94739	11.4	9.6	80.31	6.7	284.8	29.1	.083	.1556
15	750	94828	11.5	9.7	79.70	6.8	284.8	28.8	.069	.1584
14	700	94908	11.7	9.9	79.25	6.8	284.9	29.1	.093	.1596
13	650	94957	11.9	9.8	77.57	6.7	284.8	28.1	.077	.1606
12	600	95038	12.0	9.8	76.53	6.6	284.8	26.1	.049	.1619
11	550	95119	12.1	10.0	76.27	6.7	284.8	25.2	.060	.1628
10	500	95200	12.3	10.1	76.09	6.7	284.8	27.8	.095	.1636
9	450	95233	12.4	10.1	74.39	6.6	284.8	28.8	.099	.1664
8	400	95314	12.6	10.1	72.81	6.6	284.9	28.5	.078	.1669
7	350	95403	12.9	10.2	71.63	6.5	285.0	28.3	.075	.1686
6	300	95428	13.0	10.3	71.66	6.6	284.9	27.4	.065	.1692
5	250	95509	13.1	10.3	70.38	6.5	284.9	28.3	.069	.1697
4	200	95550	13.4	10.6	70.78	6.6	285.0	28.4	.070	.1713
3	150	95614	13.5	10.7	71.04	6.7	285.0	29.9	.067	.1720
2	100	95657	13.7	10.9	70.40	6.7	285.0	27.4	.094	.1742
1	50	95722	14.0	11.3	71.77	7.0	285.2	22.0	.116	.1743



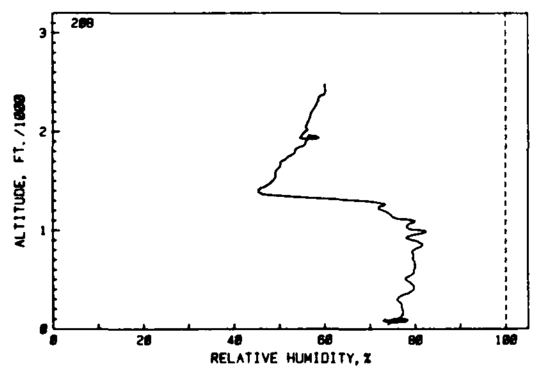
FLIGHT 20A, Oct.27

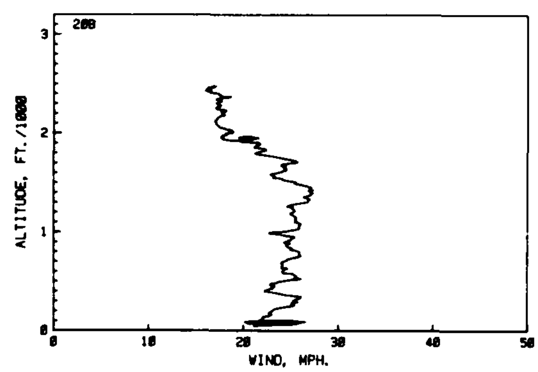
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	175950	14.4	12.1	76.80	7.7	286.2	14.9	.075	.0004
2	100	180031	14.2	11.9	75.99	7.6	286.1	22.9	.063	.0018
3	150	180056	14.0	11.7	75.97	7.5	286.2	23.5	.049	.0020
4	200	180129	13.9	11.7	77.50	7.6	286.1	24.4	.056	.0030
5	250	180201	13.6	11.4	77.05	7.4	286.1	26.5	.073	.0046
6	300	180226	13.6	11.4	77.38	7.4	286.1	27.4	.060	.0055
7	350	180306	13.4	11.3	78.42	7.5	286.1	27.7	.066	.0064
8	400	180339	13.2	11.2	78.82	7.4	286.1	24.7	.057	.0072
9	450	180412	13.0	11.0	78.51	7.3	286.0	26.2	.046	.0078
10	500	180454	12.8	10.9	79.44	7.3	286.0	28.0	.061	.0087
11	550	180526	12.7	10.9	80.45	7.4	286.0	27.1	.058	.0092
12	600	180606	12.6	10.9	82.23	7.5	286.0	24.6	.080	.0106
13	650	180646	12.3	10.8	84.17	7.5	285.9	24.9	.100	.0115
14	700	180726	12.1	10.6	84.04	7.4	285.8	24.6	.104	.0132
15	750	180758	12.1	10.5	82.84	7.3	286.0	28.9	.079	.0155
16	800	180831	11.9	10.4	83.64	7.4	286.0	27.5	.058	.0167
17	850	180855	11.8	10.3	83.71	7.3	286.0	27.0	.100	.0179
18	900	180927	11.7	10.4	85.51	7.4	286.0	26.5	.118	.0193
19	950	181006	11.5	10.5	88.78	7.6	285.9	26.7	.098	.0203
20	1000	181046	11.2	10.4	90.65	7.7	285.8	24.9	.071	.0216
21	1050	181142	11.0	10.3	91.10	7.6	285.8	23.7	.088	.0233
22	1100	181207	11.0	10.3	91.81	7.7	285.9	25.2	.115	.0244
23	1150	181239	10.8	10.2	92.74	7.7	285.9	25.1	.121	.0275
24	1200	181352	10.6	9.5	86.43	7.1	285.9	24.4	.080	.0283
25	1250	181417	10.6	9.4	85.95	7.0	286.0	26.8	.085	.0297
26	1300	181449	10.4	9.4	87.65	7.1	286.0	25.9	.085	.0310
27	1350	181537	10.3	9.3	88.13	7.1	286.0	24.8	.097	.0321
28	1400	181618	10.2	9.3	89.80	7.2	286.0	26.1	.086	.0339
29	1450	181642	10.0	9.3	91.66	7.3	286.0	25.3	.084	.0351
30	1500	181706	9.8	9.2	92.66	7.3	286.0	24.5	.090	.0361
31	1550	181753	9.6	8.8	90.51	7.0	285.9	25.8	.065	.0373
32	1600	181832	10.0	8.4	80.86	6.4	286.5	26.7	.069	.0385
33	1650	181905	10.6	7.9	69.98	5.8	287.2	25.3	.063	.0389
34	1700	181954	10.6	7.7	67.17	5.6	287.4	24.0	.061	.0399
35	1750	182106	10.8	7.5	63.42	5.3	287.7	24.0	.052	.0411
36	1800	182147	10.5	7.4	65.24	5.4	287.6	24.6	.054	.0415
37	1850	182252	10.6	7.3	63.47	5.3	287.8	25.6	.058	.0429
38	1900	182402	10.5	7.1	62.64	5.2	287.8	23.7	.054	.0432
39	1950	182500	10.5	7.1	61.93	5.2	288.0	23.1	.059	.0444
40	2000	182635	10.4	7.1	63.55	5.3	288.1	22.3	.046	.0451
41	2050	182706	10.3	7.1	63.63	5.3	288.1	22.0	.047	.0457
42	2100	182752	10.3	7.0	63.58	5.2	288.2	19.7	.054	.0466
43	2150	182901	10.3	7.0	63.23	5.2	288.4	19.3	.059	.0471
44	2200	183133	10.5	7.0	61.40	5.1	288.7	16.6	.027	.0479
45	2250	183212	10.3	6.8	61.45	5.1	288.7	13.0	.052	.0483
46	2300	183328	10.3	6.7	60.68	5.0	288.9	14.7	.035	.0491
47	2350	183438	10.2	6.6	59.79	4.9	288.9	14.7	.046	.0496
48	2400	183539	10.1	6.5	59.85	4.9	289.0	16.7	.040	.0504
49	2450	183639	10.0	6.5	61.20	5.0	289.0	17.4	.046	.0509

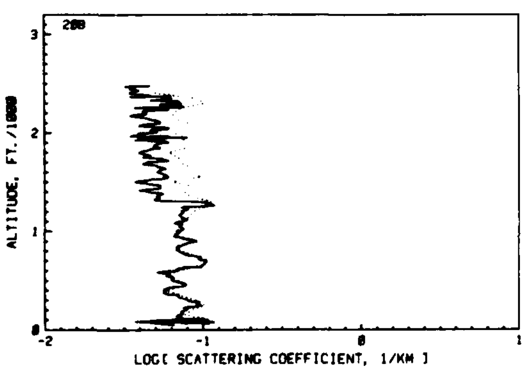


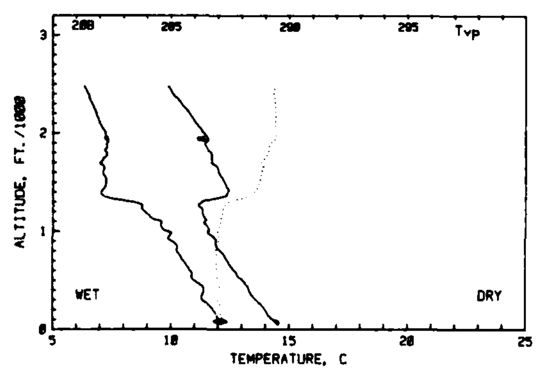
FLIGHT 20B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
49	2450	183834	10.0	6.4	60.15	4.9	288.5	16.2	.035	.0009
48	2400	183914	10.1	6.5	60.19	4.9	288.5	17.4	.035	.0015
47	2350	184131	10.3	6.6	58.89	4.9	288.5	17.6	.061	.0022
46	2300	184238	10.5	6.7	58.52	4.9	288.5	17.3	.072	.0032
45	2250	184347	10.6	6.8	57.95	4.9	288.6	17.1	.050	.0040
44	2200	184503	10.8	6.8	57.21	4.9	288.6	17.8	.044	.0048
43	2150	184541	10.9	6.9	56.84	4.9	288.6	17.3	.044	.0054
42	2100	184612	11.1	7.0	56.40	4.9	288.5	17.1	.054	.0062
41	2050	184658	11.2	7.1	55.96	4.9	288.6	17.9	.061	.0067
40	2000	184820	11.4	7.2	55.85	4.9	288.6	18.3	.045	.0074
39	1950	184906	11.6	7.3	54.78	4.9	288.6	17.9	.047	.0081
38	1900	185433	11.4	7.3	55.90	4.9	288.3	21.5	.057	.0089
37	1850	185512	11.5	7.3	55.15	4.9	288.3	21.7	.054	.0097
36	1800	185601	11.7	7.3	53.69	4.8	288.3	21.3	.040	.0104
35	1750	185642	11.7	7.2	52.43	4.7	288.2	24.0	.045	.0112
34	1700	185737	11.7	7.0	50.81	4.5	288.0	25.2	.044	.0119
33	1650	185832	12.0	7.2	50.34	4.5	288.1	24.3	.053	.0128
32	1600	185912	12.0	7.1	49.39	4.5	288.0	23.6	.052	.0137
31	1550	185943	12.2	7.2	49.24	4.5	288.0	23.2	.061	.0142
30	1500	190032	12.3	7.3	48.61	4.4	288.0	25.5	.039	.0150
29	1450	190056	12.4	7.2	47.25	4.3	287.9	27.2	.054	.0161
28	1400	190150	12.4	7.0	45.49	4.2	287.8	27.3	.045	.0168
27	1350	190231	12.1	7.3	49.19	4.4	287.4	26.5	.052	.0177
26	1300	190304	11.3	8.4	67.26	5.8	286.4	26.6	.086	.0185
25	1250	190345	11.2	8.8	73.16	6.2	286.1	25.2	.090	.0198
24	1200	190426	11.3	8.9	72.97	6.2	286.1	25.3	.074	.0214
23	1150	190442	11.4	9.1	74.74	6.4	286.0	25.5	.073	.0222
22	1100	190523	11.4	9.6	79.20	6.8	285.9	25.5	.072	.0233
21	1050	190556	11.5	9.6	78.30	6.7	285.9	25.9	.071	.0247
20	1000	190636	11.5	9.9	80.83	7.0	285.8	23.4	.070	.0253
19	950	190723	11.8	9.9	79.53	6.9	285.8	25.4	.066	.0267
18	900	190804	11.9	10.1	79.32	7.0	285.8	24.6	.090	.0279
17	850	190835	11.9	10.3	81.61	7.2	285.7	24.6	.073	.0287
16	800	190908	12.1	10.3	79.77	7.1	285.7	25.9	.070	.0299
15	750	190940	12.3	10.4	79.63	7.1	285.7	25.8	.087	.0309
14	700	191019	12.4	10.6	79.64	7.2	285.7	24.2	.105	.0322
13	650	191051	12.5	10.7	79.97	7.2	285.7	24.1	.099	.0339
12	600	191141	12.7	10.8	79.76	7.3	285.7	24.2	.069	.0353
11	550	191214	12.8	10.9	79.30	7.3	285.7	25.6	.059	.0363
10	500	191256	13.1	11.0	77.99	7.3	285.8	24.0	.065	.0373
9	450	191337	13.2	11.3	79.44	7.5	285.8	23.3	.077	.0384
8	400	191400	13.3	11.4	79.71	7.5	285.7	22.3	.056	.0392
7	350	191441	13.5	11.3	77.74	7.4	285.7	25.5	.069	.0402
6	300	191505	13.6	11.3	76.05	7.3	285.7	25.3	.080	.0411
5	250	191546	13.8	11.6	76.96	7.5	285.8	25.0	.095	.0424
4	200	191618	14.0	11.6	77.13	7.6	285.8	23.1	.078	.0432
3	150	191650	14.1	11.9	77.34	7.6	285.8	22.7	.072	.0447
2	100	191731	14.4	12.1	76.65	7.7	285.9	21.8	.099	.0455
1	50	193532	14.6	12.0	74.07	7.5	285.9	21.2	.065	.0468



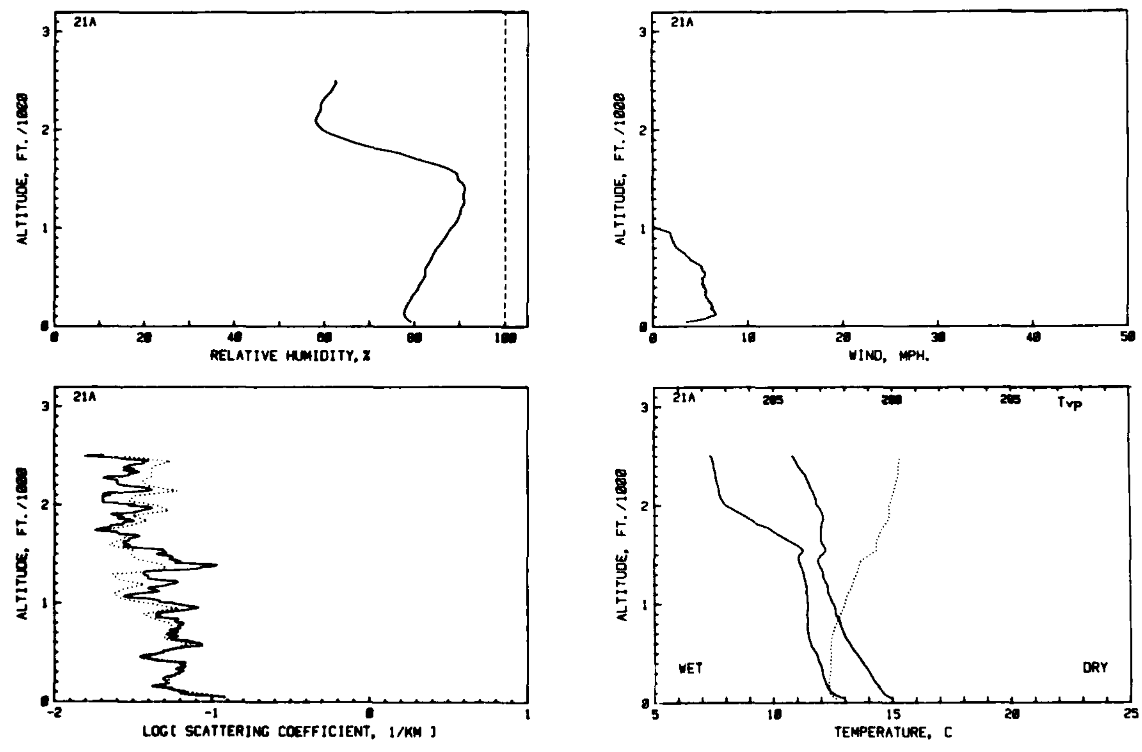






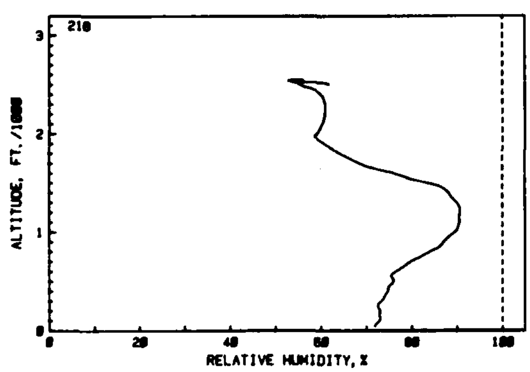
FLIGHT 21A, Oct.28

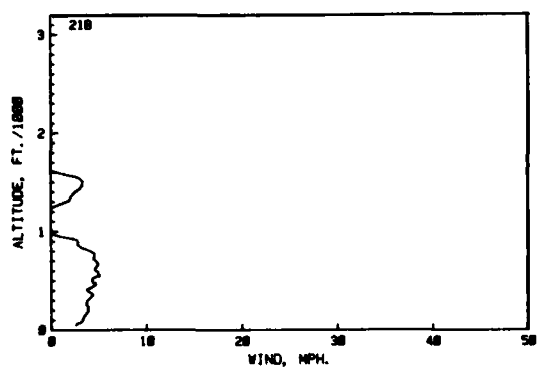
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	82946	15.0	12.9	79.22	8.2	286.2	3.6	.118	.0011
2	100	83026	14.6	12.5	77.99	7.9	286.0	6.0	.037	.0024
3	150	83059	14.5	12.3	77.82	7.8	286.0	6.4	.046	.0031
4	200	83131	14.3	12.2	78.24	7.8	285.9	6.3	.051	.0038
5	250	83203	14.1	12.1	78.81	7.8	286.0	5.9	.051	.0045
6	300	83235	14.0	12.0	79.35	7.8	286.0	5.5	.063	.0055
7	350	83307	13.9	12.0	80.19	7.9	286.0	5.5	.067	.0064
8	400	83339	13.8	11.9	80.88	7.9	286.0	5.3	.064	.0075
9	450	83411	13.6	11.9	81.50	7.9	286.0	5.2	.037	.0082
10	500	83435	13.5	11.8	82.19	7.9	286.0	5.4	.049	.0088
11	550	83507	13.3	11.7	82.32	7.8	286.0	5.5	.063	.0095
12	600	83546	13.2	11.6	82.54	7.8	286.1	5.1	.078	.0110
13	650	83618	13.1	11.5	83.28	7.8	286.1	4.4	.055	.0120
14	700	83657	13.0	11.5	83.82	7.8	286.1	3.8	.059	.0128
15	750	83729	12.9	11.4	84.34	7.8	286.2	3.3	.063	.0138
16	800	83800	12.8	11.4	85.08	7.9	286.3	2.6	.065	.0148
17	850	83823	12.7	11.5	86.00	7.9	286.3	2.2	.052	.0155
18	900	83854	12.6	11.4	86.78	8.0	286.4	2.0	.046	.0162
19	950	83926	12.6	11.5	87.44	8.0	286.5	1.8	.080	.0174
20	1000	83956	12.5	11.5	88.23	8.1	286.6	.5	.057	.0182
21	1050	84038	12.4	11.4	89.16	8.1	286.6	0.0	.039	.0191
22	1100	84107	12.3	11.4	89.78	8.2	286.7	0.0	.035	.0194
23	1150	84143	12.3	11.4	90.14	8.2	286.8	0.0	.040	.0202
24	1200	84212	12.2	11.4	90.41	8.2	286.9	0.0	.057	.0209
25	1250	84242	12.1	11.3	91.03	8.2	286.9	0.0	.040	.0218
26	1300	84311	12.1	11.3	90.95	8.2	287.0	0.0	.037	.0222
27	1350	84340	12.0	11.2	90.98	8.2	287.1	0.0	.081	.0226
28	1400	84419	11.9	11.2	91.23	8.2	287.2	0.0	.080	.0248
29	1450	84448	11.9	11.1	90.76	8.1	287.3	0.0	.054	.0256
30	1500	84517	12.0	11.1	89.65	8.1	287.6	0.0	.045	.0262
31	1550	84554	12.2	11.2	89.34	8.2	287.9	0.0	.045	.0270
32	1600	84622	12.1	11.0	87.58	8.0	287.9	0.0	.029	.0274
33	1650	84700	12.0	10.6	84.45	7.6	288.0	0.0	.030	.0278
34	1700	84730	12.0	10.2	80.73	7.3	288.1	0.0	.030	.0283
35	1750	84759	12.0	9.9	77.39	7.0	288.3	0.0	.019	.0286
36	1800	84835	12.0	9.5	72.72	6.6	288.5	0.0	.026	.0289
37	1850	84904	12.1	9.1	68.01	6.2	288.7	0.0	.030	.0294
38	1900	84935	12.1	8.7	64.70	5.9	288.8	0.0	.023	.0298
39	1950	85012	12.0	8.4	61.82	5.6	288.9	0.0	.038	.0303
40	2000	85041	11.9	8.0	59.59	5.4	288.9	0.0	.032	.0308
41	2050	85117	11.8	7.9	58.47	5.3	289.0	0.0	.020	.0311
42	2100	85153	11.7	7.8	58.05	5.2	289.1	0.0	.022	.0314
43	2150	85224	11.6	7.7	58.54	5.3	289.1	0.0	.041	.0319
44	2200	85302	11.5	7.7	59.10	5.3	289.2	0.0	.027	.0324
45	2250	85330	11.5	7.6	59.26	5.3	289.3	0.0	.025	.0328
46	2300	85359	11.4	7.6	59.65	5.3	289.3	0.0	.029	.0331
47	2350	85437	11.2	7.5	60.60	5.3	289.3	0.0	.029	.0337
48	2400	85513	11.1	7.5	61.58	5.4	289.3	0.0	.030	.0341
49	2450	85555	11.0	7.5	62.26	5.4	289.4	0.0	.039	.0346
50	2500	85645	10.8	7.4	62.36	5.4	289.4	0.0	.019	.0349

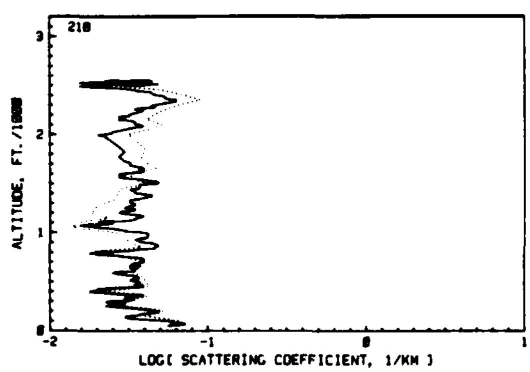


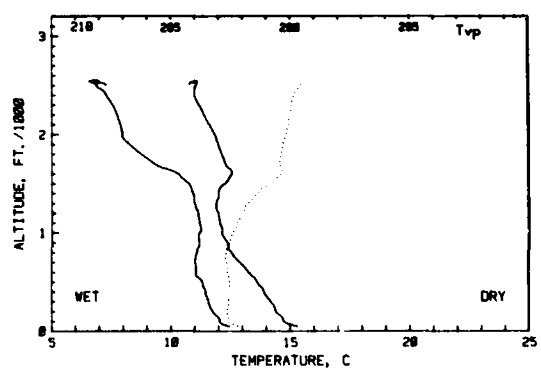
FLIGHT 21B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
50	2500	90711	11.0	6.9	55.46	4.8	289.6	0.0	.018	.0004
49	2450	90756	11.0	7.1	58.48	5.1	289.4	0.0	.035	.0009
48	2400	90826	11.0	7.3	60.02	5.2	289.3	0.0	.050	.0016
47	2350	90903	11.1	7.4	60.69	5.3	289.2	0.0	.063	.0023
46	2300	90938	11.2	7.6	61.01	5.3	289.1	0.0	.047	.0032
45	2250	91012	11.3	7.7	60.99	5.4	289.1	0.0	.038	.0039
44	2200	91042	11.4	7.7	60.93	5.4	289.0	0.0	.032	.0045
43	2150	91111	11.5	7.8	60.73	5.4	289.0	0.0	.029	.0050
42	2100	91141	11.6	7.9	60.32	5.4	289.0	0.0	.036	.0054
41	2050	91209	11.7	7.9	59.79	5.4	288.9	0.0	.030	.0059
40	2000	91246	11.8	8.0	59.12	5.4	288.9	0.0	.022	.0063
39	1950	91308	11.9	8.0	59.15	5.4	288.8	0.0	.024	.0066
38	1900	91316	12.0	8.2	60.67	5.5	288.7	0.0	.026	.0081
37	1850	91519	12.1	8.5	62.39	5.7	288.7	0.0	.029	.0083
36	1800	91530	12.1	8.8	64.30	5.9	288.6	0.0	.029	.0084
35	1750	91537	12.2	9.0	66.35	6.1	288.5	0.0	.029	.0085
34	1700	91553	12.3	9.3	68.55	6.3	288.4	0.0	.032	.0088
33	1650	91630	12.5	9.8	71.62	6.7	288.5	0.0	.039	.0094
32	1600	91701	12.5	10.3	76.02	7.1	288.4	.6	.030	.0099
31	1550	91732	12.4	10.5	79.17	7.3	288.1	2.7	.032	.0103
30	1500	91802	12.3	10.8	83.61	7.7	287.8	3.4	.047	.0109
29	1450	91834	12.0	10.9	86.90	7.8	287.4	3.2	.037	.0115
28	1400	91911	12.0	10.9	88.17	7.9	287.2	2.5	.036	.0121
27	1350	91941	12.0	11.0	88.93	8.0	287.1	2.1	.038	.0127
26	1300	92012	11.9	11.0	89.96	8.0	286.8	1.7	.033	.0133
25	1250	92042	11.9	11.1	90.64	8.0	286.7	.3	.031	.0138
24	1200	92112	12.0	11.2	90.67	8.1	286.6	0.0	.028	.0142
23	1150	92141	12.0	11.2	90.56	8.1	286.5	0.0	.036	.0149
22	1100	92218	12.1	11.2	90.55	8.1	286.4	0.0	.023	.0152
21	1050	92255	12.1	11.3	90.22	8.1	286.3	0.0	.021	.0155
20	1000	92332	12.1	11.2	89.44	8.0	286.2	0.0	.038	.0159
19	950	92401	12.2	11.2	88.07	7.9	286.1	1.0	.041	.0166
18	900	92433	12.4	11.2	87.02	7.9	286.1	2.8	.040	.0172
17	850	92504	12.4	11.1	85.97	7.8	286.0	3.0	.047	.0180
16	800	92535	12.6	11.1	83.94	7.6	286.0	4.1	.022	.0184
15	750	92606	12.7	11.0	81.92	7.5	286.0	4.5	.032	.0186
14	700	92637	12.9	11.0	79.71	7.4	286.1	4.7	.039	.0192
13	650	92717	13.1	11.1	78.20	7.3	286.1	4.8	.035	.0197
12	600	92749	13.3	11.1	76.50	7.2	286.1	4.7	.031	.0204
11	550	92821	13.5	11.2	75.49	7.2	286.2	5.1	.035	.0207
10	500	92853	13.6	11.3	75.98	7.3	286.2	4.2	.037	.0213
9	450	92926	13.8	11.4	74.92	7.3	286.2	4.5	.038	.0219
8	400	92958	13.9	11.5	74.67	7.3	286.2	3.8	.018	.0222
7	350	93030	14.1	11.5	74.03	7.3	286.2	4.3	.036	.0226
6	300	93103	14.2	11.6	73.20	7.3	286.2	3.8	.026	.0233
5	250	93134	14.3	11.7	72.54	7.3	286.2	3.7	.024	.0237
4	200	93207	14.4	11.8	73.04	7.3	286.1	3.8	.045	.0242
3	150	93246	14.6	12.0	72.94	7.4	286.2	3.5	.034	.0247
2	100	93311	14.7	12.0	72.81	7.5	286.1	3.3	.056	.0252
1	50	93401	15.3	12.5	71.89	7.6	286.5	2.6	.058	.0261



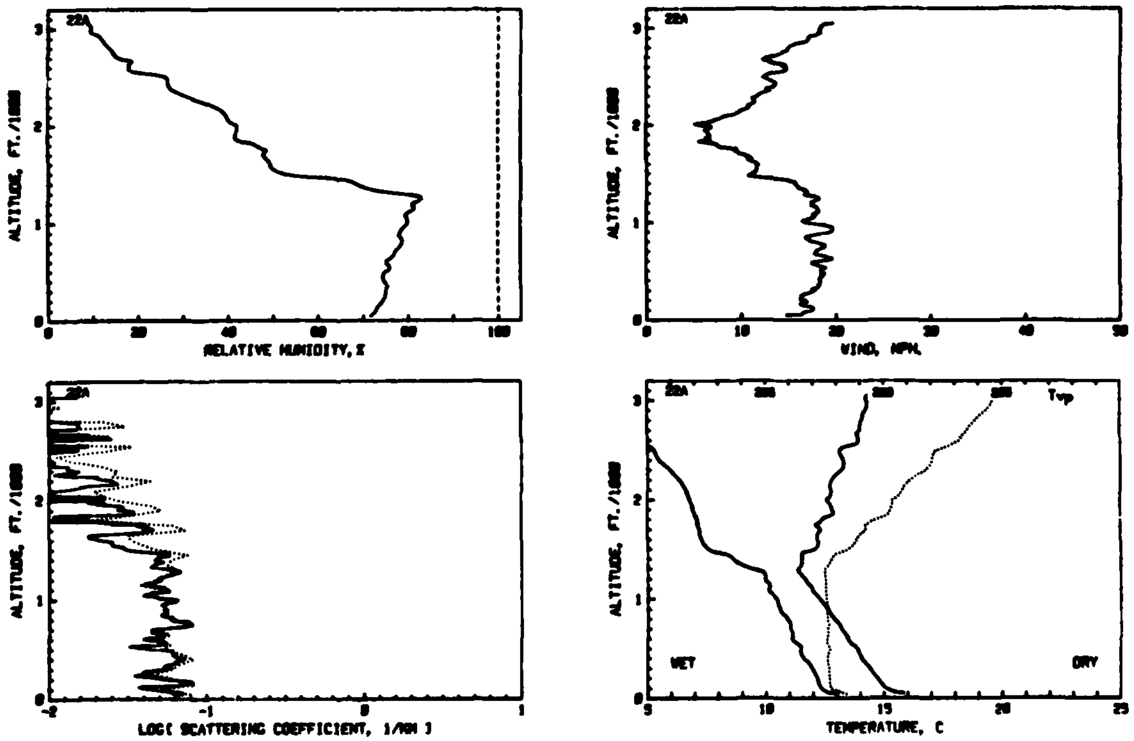






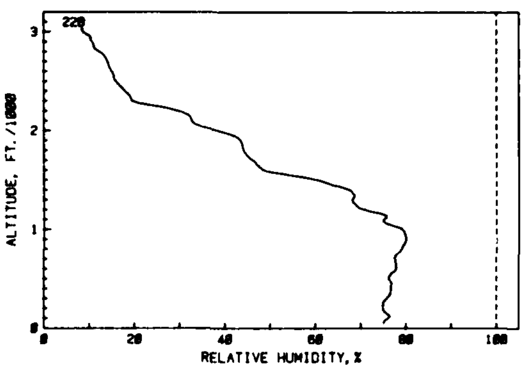
FLIGHT 22A, Oct.28

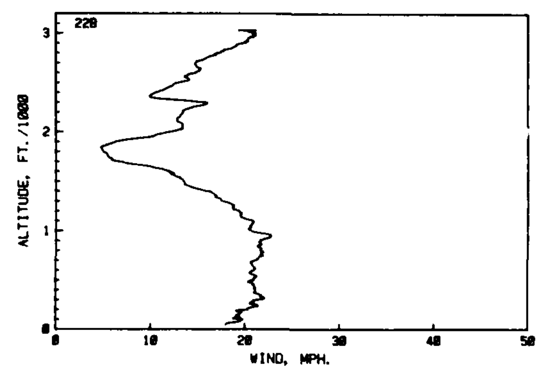
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/km	
1	50	133421	15.8	12.9	71.59	7.8	287.0	14.9	.065	.0004
2	100	133509	15.1	12.3	72.79	7.6	286.4	17.5	.044	.0017
3	150	133541	14.9	12.2	73.43	7.6	286.4	16.5	.072	.0023
4	200	133621	14.7	12.2	74.39	7.6	286.4	16.7	.053	.0036
5	250	133652	14.5	12.1	74.92	7.6	286.4	16.4	.040	.0042
6	300	133716	14.4	12.0	75.05	7.6	286.4	17.7	.053	.0046
7	350	133748	14.2	11.8	75.34	7.5	286.3	18.2	.061	.0056
8	400	133819	14.1	11.6	74.66	7.4	286.3	18.4	.072	.0068
9	450	133851	14.0	11.5	74.48	7.3	286.4	18.6	.061	.0079
10	500	133923	13.9	11.5	75.27	7.4	286.5	18.4	.047	.0085
11	550	134002	13.6	11.3	75.98	7.3	286.3	18.2	.054	.0091
12	600	134043	13.5	11.1	75.21	7.2	286.3	18.5	.043	.0099
13	650	134115	13.3	11.1	76.56	7.3	286.4	18.9	.053	.0105
14	700	134156	13.2	11.0	77.18	7.3	286.3	17.9	.045	.0114
15	750	134220	13.1	11.0	78.10	7.3	286.4	18.9	.078	.0129
16	800	134300	12.9	10.9	78.64	7.3	286.3	17.6	.060	.0138
17	850	134331	12.7	10.7	78.33	7.2	286.3	16.9	.051	.0146
18	900	134404	12.6	10.6	78.28	7.2	286.4	19.4	.054	.0156
19	950	134428	12.4	10.5	78.99	7.2	286.4	19.7	.052	.0162
20	1000	134516	12.3	10.4	79.90	7.2	286.3	16.8	.063	.0172
21	1050	134556	12.1	10.3	79.74	7.1	286.3	17.7	.040	.0177
22	1100	134642	11.9	10.1	79.86	7.1	286.3	18.0	.056	.0189
23	1150	134706	11.8	10.1	81.43	7.1	286.3	18.1	.040	.0193
24	1200	134746	11.6	10.0	81.23	7.1	286.3	17.6	.051	.0200
25	1250	134828	11.5	9.9	82.92	7.1	286.3	18.2	.061	.0209
26	1300	134915	11.4	9.4	78.01	6.7	286.3	16.9	.060	.0218
27	1350	134947	11.5	8.9	71.18	6.2	286.6	16.2	.047	.0225
28	1400	135026	11.5	8.6	68.45	5.9	286.8	15.7	.047	.0234
29	1450	135058	11.5	8.3	64.82	5.6	286.9	13.2	.056	.0241
30	1500	135202	12.1	7.6	53.10	4.8	287.6	11.3	.032	.0248
31	1550	135225	12.2	7.4	50.09	4.6	287.9	11.7	.025	.0253
32	1600	135256	12.2	7.3	49.37	4.5	288.1	11.7	.021	.0255
33	1650	135333	12.2	7.2	48.75	4.5	288.2	11.1	.020	.0258
34	1700	135411	12.3	7.2	47.86	4.4	288.5	9.9	.046	.0265
35	1750	135506	12.1	7.1	48.52	4.4	288.4	9.5	.038	.0270
36	1800	135621	12.4	7.1	46.18	4.3	288.9	7.5	.011	.0273
37	1850	135743	12.8	7.0	42.25	4.0	289.5	6.7	.018	.0275
38	1900	135836	12.8	6.9	41.65	4.0	289.6	6.7	.030	.0282
39	1950	135907	12.7	6.9	42.00	4.0	289.7	6.2	.027	.0286
40	2000	135958	12.6	6.8	42.06	4.0	289.7	5.9	.017	.0288
41	2050	140120	12.8	6.7	40.32	3.9	290.0	7.1	.013	.0292
42	2100	140150	12.7	6.6	39.67	3.8	290.1	8.5	.011	.0293
43	2150	140214	12.7	6.5	38.89	3.7	290.2	10.0	.018	.0297
44	2200	140229	12.8	6.3	37.10	3.6	290.5	10.8	.025	.0301
45	2250	140253	13.0	6.2	34.44	3.4	290.8	11.4	.014	.0302
46	2300	140325	13.2	6.0	31.37	3.1	291.2	11.7	.015	.0306
47	2350	140348	13.3	5.7	28.72	2.9	291.4	12.8	.012	.0307
48	2400	140411	13.3	5.5	27.02	2.7	291.6	13.5	.008	.0308
49	2450	140442	13.2	5.4	26.66	2.7	291.6	13.6	.006	.0309
50	2500	140512	13.1	5.3	26.41	2.6	291.7	12.4	.012	.0311
51	2550	140607	13.6	4.9	20.92	2.2	292.3	14.2	.018	.0312
52	2600	140708	13.9	4.7	17.94	1.9	292.8	14.8	.001	.0313
53	2650	140906	13.9	4.8	18.27	1.9	293.0	13.1	.012	.0315
54	2700	141113	14.0	4.5	15.98	1.7	293.2	12.9	.003	.0316
55	2750	141150	14.0	4.3	14.52	1.5	293.4	14.4	.016	.0319
56	2800	141211	14.1	4.3	13.70	1.5	293.6	15.0	.012	.0321
57	2850	141251	14.1	4.1	12.57	1.4	293.8	16.4	-.005	.0320
58	2900	141322	14.2	4.1	11.89	1.3	294.1	17.1	.004	.0321
59	2950	141408	14.3	3.9	10.38	1.1	294.3	18.4	.006	.0321
60	3000	141504	14.3	3.8	9.54	1.0	294.4	18.4	.002	.0322

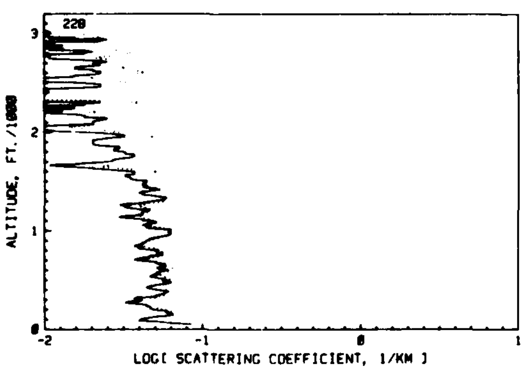


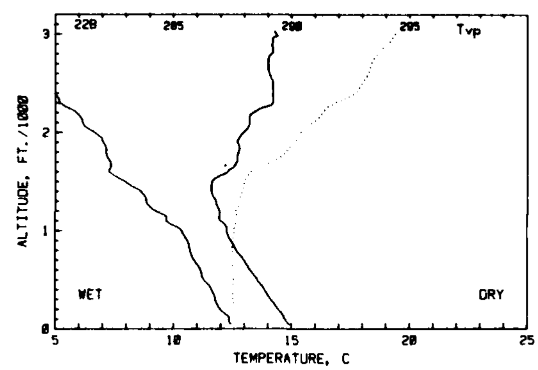
FLIGHT 228, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
58	3000	142121	14.3	3.7	10.50	1.1	294.2	21.1	.008	.0000
57	2950	142216	14.2	3.8	11.11	1.2	294.0	20.3	.011	.0001
56	2900	142309	14.2	3.9	11.85	1.3	293.9	19.7	.010	.0002
55	2850	142356	14.2	4.0	13.32	1.4	293.5	18.6	.012	.0003
54	2800	142429	14.1	4.1	13.96	1.5	293.4	17.2	.018	.0006
53	2750	142452	14.0	4.2	14.38	1.5	293.2	15.9	.011	.0009
52	2700	142523	14.0	4.3	14.87	1.6	293.1	14.7	.021	.0012
51	2650	142602	14.0	4.3	15.45	1.6	293.0	15.1	.016	.0015
50	2600	142649	14.1	4.5	15.70	1.7	293.0	14.7	.023	.0018
49	2550	142719	14.1	4.6	16.67	1.8	292.8	13.8	.010	.0021
48	2500	142751	14.2	4.7	17.71	1.9	292.7	12.9	.018	.0022
47	2450	142831	14.2	4.8	18.77	2.0	292.5	11.8	.015	.0025
46	2400	142910	14.2	5.0	19.40	2.1	292.4	10.6	.008	.0026
45	2350	143007	14.2	5.1	22.96	2.4	291.9	10.1	.002	.0027
44	2300	143055	14.2	5.2	28.63	2.9	291.3	15.9	.022	.0027
43	2250	143128	13.7	5.5	31.75	3.2	290.9	14.4	.015	.0030
42	2200	143151	13.4	5.9	32.63	3.2	290.7	13.4	.011	.0032
41	2150	143222	13.2	6.1	33.68	3.3	290.6	13.0	.020	.0034
40	2100	143301	13.2	6.2	37.56	3.7	290.2	13.0	.020	.0038
39	2050	143341	13.2	6.3	41.24	4.0	289.9	13.3	.008	.0040
38	2000	143420	13.0	6.7	43.26	4.1	289.6	11.9	.018	.0042
37	1950	143459	12.8	6.9	43.82	4.2	289.5	10.0	.030	.0046
36	1900	143522	12.7	7.0	44.10	4.2	289.4	6.3	.020	.0049
35	1850	143554	12.8	7.1	44.73	4.2	289.2	4.8	.030	.0053
34	1800	143625	12.7	7.1	45.83	4.3	289.0	5.0	.031	.0057
33	1750	143711	12.7	7.2	47.03	4.4	288.8	5.5	.036	.0064
32	1700	143751	12.7	7.3	48.24	4.4	288.3	6.7	.024	.0067
31	1650	143845	12.6	7.3	52.85	4.8	287.9	9.9	.015	.0069
30	1600	143915	12.3	7.3	59.30	5.2	287.4	12.0	.036	.0073
29	1550	143946	11.9	7.6	63.07	5.5	287.2	12.7	.033	.0079
28	1500	144028	11.6	7.9	66.81	5.8	287.0	13.5	.044	.0085
27	1450	144107	11.6	8.3	68.37	6.0	286.9	14.1	.043	.0091
26	1400	144140	11.6	8.6	68.28	6.0	286.9	16.1	.045	.0099
25	1350	144221	11.7	8.8	68.63	6.0	286.8	16.9	.051	.0106
24	1300	144301	11.8	8.8	70.05	6.2	286.7	17.6	.049	.0114
23	1250	144333	11.8	9.0	74.32	6.6	286.6	18.8	.034	.0119
22	1200	144407	11.9	9.2	75.42	6.7	286.5	19.4	.045	.0124
21	1150	144439	12.0	9.7	75.73	6.8	286.5	19.5	.036	.0131
20	1100	144521	12.0	9.7	78.86	7.1	286.5	20.9	.045	.0137
19	1050	144553	12.2	10.1	79.72	7.2	286.4	20.6	.044	.0143
18	1000	144633	12.3	10.4	80.01	7.2	286.3	20.6	.063	.0150
17	950	144705	12.3	10.5	79.67	7.3	286.3	22.7	.060	.0162
16	900	144737	12.4	10.6	79.14	7.3	286.3	21.7	.045	.0169
15	850	144810	12.6	10.7	78.27	7.2	286.2	21.4	.039	.0176
14	800	144851	12.7	10.7	77.54	7.2	286.3	21.6	.050	.0182
13	750	144924	12.8	10.8	77.80	7.3	286.2	21.9	.054	.0191
12	700	144956	13.0	10.9	77.96	7.4	286.2	21.1	.040	.0198
11	650	145036	13.1	11.0	77.01	7.3	286.2	20.8	.057	.0205
10	600	145108	13.2	11.2	76.22	7.3	286.3	20.9	.061	.0214
9	550	145149	13.4	11.2	76.79	7.4	286.2	21.0	.050	.0221
8	500	145221	13.6	11.3	76.72	7.5	286.3	21.0	.058	.0230
7	450	145254	13.7	11.5	76.64	7.5	286.2	20.8	.051	.0240
6	400	145326	13.9	11.6	75.96	7.5	286.2	21.1	.053	.0246
5	350	145359	14.0	11.7	75.08	7.5	286.2	21.6	.054	.0256
4	300	145431	14.1	11.8	74.96	7.5	286.2	21.4	.041	.0262
3	250	145504	14.3	11.9	75.43	7.7	286.3	21.2	.043	.0266
2	200	145537	14.4	12.0	76.33	7.8	286.2	20.3	.049	.0275
1	150	145619	14.6	12.2	75.10	7.8	286.2	19.4	.065	.0286



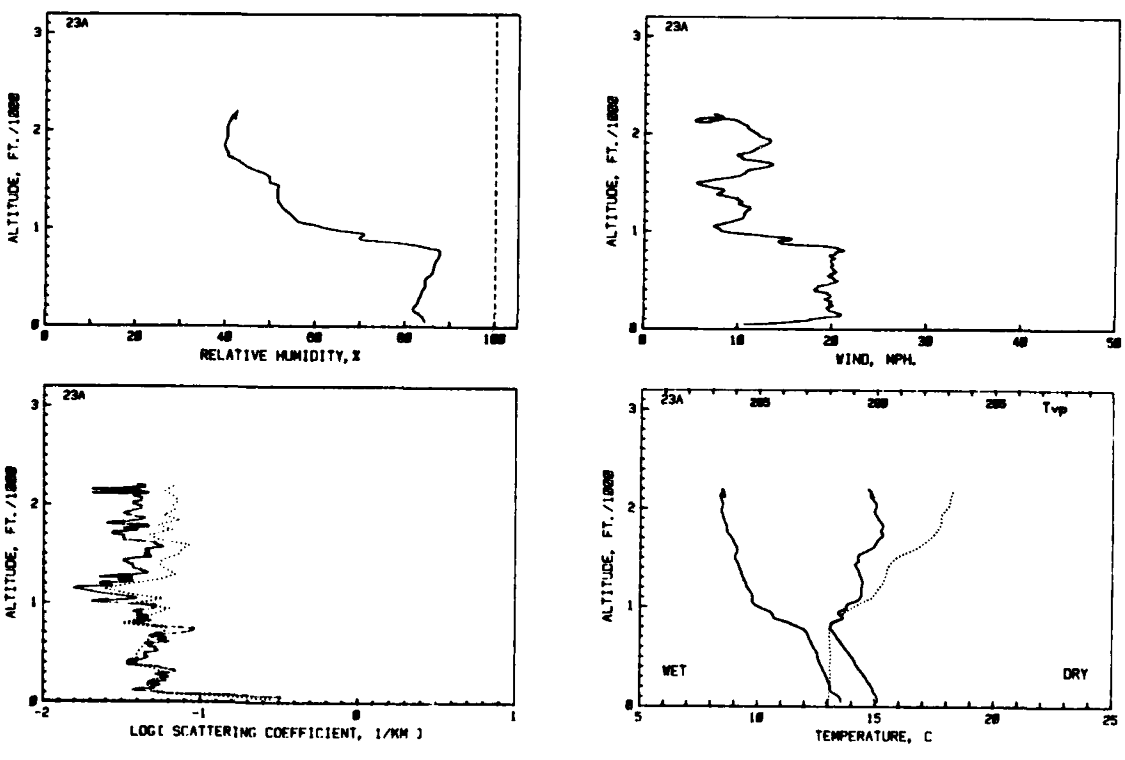






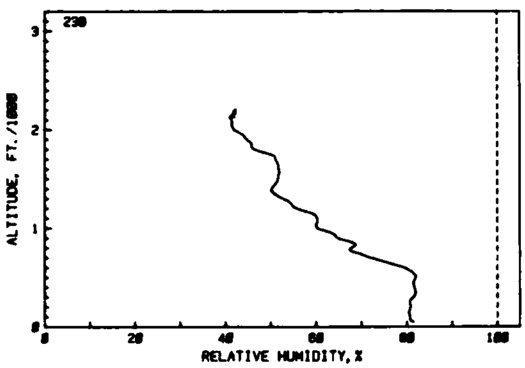
FLIGHT 23A, Oct.28

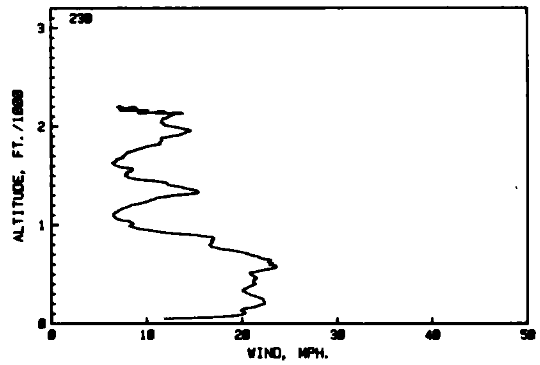
i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	190950	15.1	13.6	84.46	8.9	286.4	11.1	.319	.0026
2	100	191040	15.1	13.5	83.77	8.8	286.5	17.8	.058	.0070
3	150	191112	14.9	13.2	82.12	8.5	286.5	21.0	.050	.0075
4	200	191143	14.9	13.1	82.01	8.5	286.6	19.7	.048	.0083
5	250	191216	14.7	13.0	82.80	8.5	286.6	19.9	.060	.0093
6	300	191249	14.6	12.9	83.23	8.5	286.6	19.4	.064	.0102
7	350	191322	14.4	12.8	83.66	8.5	286.6	19.8	.056	.0112
8	400	191354	14.2	12.7	84.32	8.5	286.6	18.1	.038	.0117
9	450	191426	14.1	12.6	84.34	8.4	286.6	19.1	.046	.0125
10	500	191458	14.0	12.6	84.89	8.4	286.6	20.4	.046	.0131
11	550	191539	13.8	12.5	86.09	8.5	286.6	19.8	.051	.0139
12	600	191619	13.7	12.4	86.25	8.4	286.6	20.2	.055	.0145
13	650	191652	13.5	12.3	86.66	8.4	286.6	20.0	.060	.0154
14	700	191734	13.3	12.2	87.31	8.4	286.6	19.8	.074	.0162
15	750	191805	13.2	12.1	87.74	8.3	286.6	19.7	.081	.0182
16	800	191847	13.1	11.7	85.21	8.1	286.6	20.9	.038	.0189
17	850	191919	13.2	11.2	79.23	7.5	286.9	19.3	.043	.0196
18	900	192008	13.6	10.7	69.72	6.8	287.4	14.3	.042	.0204
19	950	192040	13.4	10.5	70.16	6.8	287.4	13.2	.051	.0208
20	1000	192144	13.8	10.1	62.58	6.2	287.9	8.2	.028	.0215
21	1050	192238	14.0	9.8	57.70	5.8	288.3	7.4	.039	.0219
22	1100	192309	14.4	9.8	55.30	5.7	288.8	9.3	.023	.0225
23	1150	192341	14.4	9.7	54.28	5.6	289.0	10.6	.016	.0228
24	1200	192404	14.4	9.5	52.89	5.5	289.1	10.7	.023	.0231
25	1250	192442	14.4	9.5	52.02	5.4	289.3	11.0	.036	.0236
26	1300	192526	14.4	9.4	51.56	5.4	289.4	10.4	.044	.0242
27	1350	192612	14.3	9.3	51.57	5.4	289.5	9.0	.038	.0248
28	1400	192648	14.2	9.2	51.58	5.3	289.5	8.1	.035	.0255
29	1450	192735	14.2	9.1	51.08	5.3	289.7	7.0	.036	.0259
30	1500	192833	14.2	9.0	49.74	5.2	289.9	5.8	.045	.0266
31	1550	192904	14.4	9.1	49.01	5.2	290.2	9.0	.047	.0275
32	1600	192936	14.8	9.1	46.24	5.0	290.8	10.7	.051	.0284
33	1650	193000	15.0	9.0	44.19	4.9	291.1	12.3	.032	.0289
34	1700	193024	15.2	8.9	42.27	4.7	291.4	13.3	.028	.0293
35	1750	193111	15.2	8.7	40.42	4.5	291.7	10.3	.038	.0298
36	1800	193211	15.3	8.7	40.10	4.5	291.8	10.5	.031	.0304
37	1850	193241	15.2	8.6	39.75	4.5	291.9	11.9	.042	.0312
38	1900	193304	15.1	8.5	40.12	4.5	291.9	13.1	.034	.0317
39	1950	193328	15.0	8.5	40.44	4.5	292.0	12.9	.040	.0321
40	2000	193359	15.0	8.4	40.32	4.5	292.1	11.9	.039	.0328
41	2050	193424	15.0	8.5	40.43	4.5	292.3	11.0	.042	.0332
42	2100	193505	14.8	8.4	40.99	4.5	292.3	10.4	.039	.0337
43	2150	193553	14.8	8.4	41.57	4.6	292.4	9.0	.035	.0344
44	2200	194058	14.7	8.4	42.53	4.7	292.4	7.3	.040	.0349

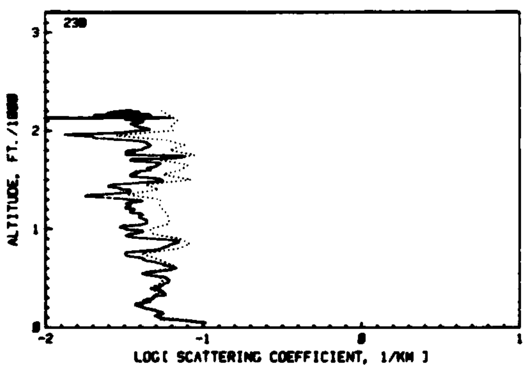


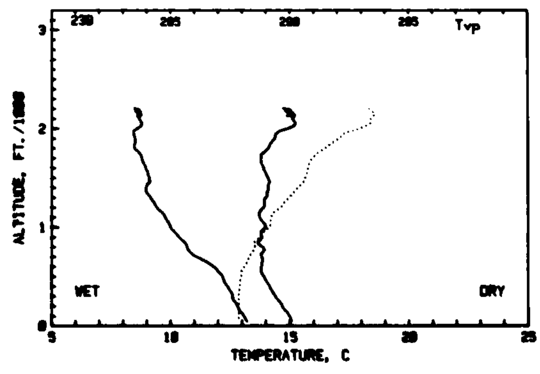
FLIGHT 23B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
44	2200	194135	14.8	8.5	42.30	4.7	292.5	7.1	.032	.0005
43	2150	194745	15.2	8.8	41.76	4.7	292.8	9.6	.036	.0010
42	2100	195332	15.1	8.7	41.33	4.6	292.6	12.3	.041	.0017
41	2050	195418	15.2	8.8	41.49	4.7	292.6	11.7	.037	.0023
40	2000	195449	14.9	8.6	41.87	4.6	292.1	12.5	.038	.0031
39	1950	195528	14.4	8.4	43.70	4.7	291.4	14.6	.017	.0033
38	1900	195558	14.4	8.5	44.69	4.8	291.2	12.7	.036	.0038
37	1850	195637	14.2	8.5	45.78	4.8	290.9	11.6	.047	.0045
36	1800	195708	14.1	8.5	46.29	4.8	290.6	10.3	.038	.0050
35	1750	195755	13.9	8.7	49.54	5.1	290.3	8.7	.055	.0054
34	1700	195849	13.8	8.8	51.09	5.2	290.0	7.6	.035	.0063
33	1650	195921	13.8	8.9	51.55	5.2	289.9	6.8	.051	.0072
32	1600	195959	13.9	9.0	51.77	5.3	289.8	6.8	.047	.0079
31	1550	200052	14.0	9.0	51.86	5.3	289.8	8.5	.036	.0084
30	1500	200128	14.1	9.1	51.63	5.3	289.7	7.8	.054	.0092
29	1450	200221	14.1	9.1	51.16	5.3	289.6	10.5	.028	.0097
28	1400	200307	14.1	9.0	50.32	5.2	289.4	12.6	.033	.0102
27	1350	200346	14.1	9.0	50.69	5.2	289.2	15.2	.021	.0106
26	1300	200432	14.0	9.2	52.45	5.3	289.0	13.2	.035	.0111
25	1250	200503	13.9	9.3	54.38	5.5	288.8	10.4	.035	.0116
24	1200	200533	13.9	9.4	55.58	5.6	288.7	8.4	.037	.0121
23	1150	200612	13.7	9.6	58.89	5.9	288.3	7.2	.041	.0126
22	1100	200636	13.7	9.8	60.24	6.0	288.2	6.5	.042	.0134
21	1050	200715	13.9	9.9	60.20	6.0	288.2	7.3	.042	.0138
20	1000	200801	14.0	10.0	60.20	6.1	288.1	8.5	.032	.0143
19	950	200839	13.8	10.2	63.16	6.3	287.8	9.9	.035	.0151
18	900	200911	13.8	10.4	64.67	6.4	287.7	14.8	.053	.0155
17	850	200943	13.7	10.6	68.03	6.7	287.4	17.0	.064	.0167
16	800	201015	13.9	10.7	67.98	6.7	287.4	16.6	.054	.0176
15	750	201055	13.9	10.8	68.58	6.8	287.3	18.4	.032	.0180
14	700	201127	13.8	11.1	71.64	7.1	287.1	20.8	.042	.0185
13	650	201208	13.9	11.5	75.47	7.5	287.0	22.7	.054	.0193
12	600	201249	13.8	11.8	79.00	7.8	286.8	23.0	.065	.0201
11	550	201319	13.8	12.0	81.13	8.0	286.6	22.8	.042	.0208
10	500	201358	13.9	12.2	81.98	8.1	286.6	20.9	.059	.0215
9	450	201430	14.0	12.3	81.51	8.1	286.5	21.3	.057	.0225
8	400	201502	14.2	12.4	81.65	8.2	286.5	21.4	.049	.0233
7	350	201535	14.3	12.5	81.96	8.2	286.5	20.3	.056	.0240
6	300	201607	14.4	12.6	81.57	8.2	286.4	20.7	.049	.0247
5	250	201639	14.6	12.7	80.68	8.2	286.5	22.2	.041	.0255
4	200	201710	14.7	12.8	80.85	8.3	286.4	22.3	.042	.0259
3	150	201749	14.9	12.9	80.48	8.3	286.4	20.2	.055	.0267
2	100	201822	15.0	13.1	80.67	8.4	286.4	20.3	.053	.0275
1	50	201903	15.0	13.2	81.22	8.5	286.4	12.1	.103	.0283



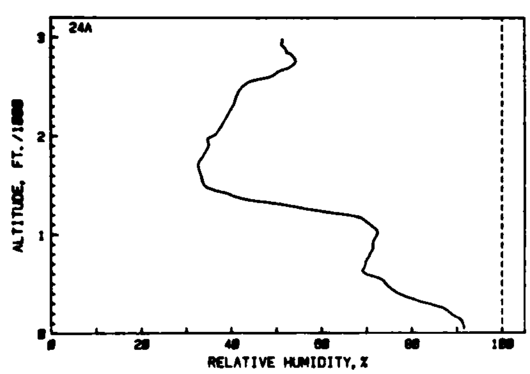


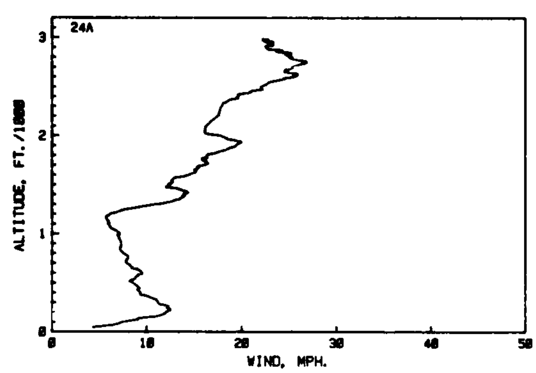


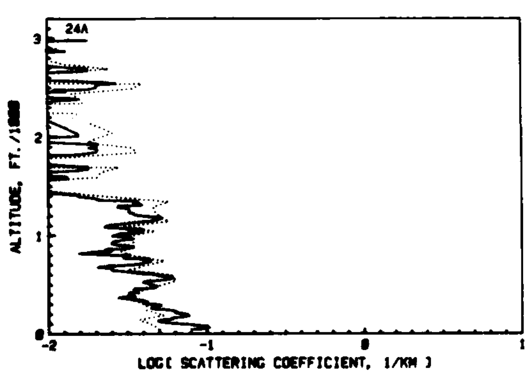


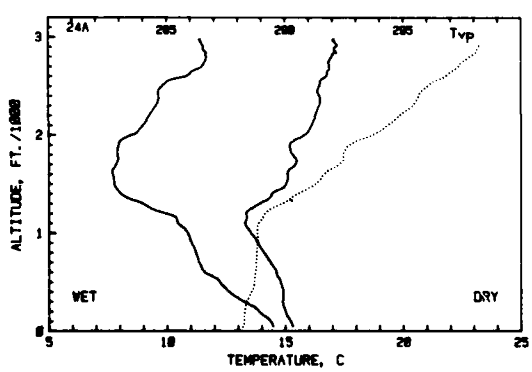
FLIGHT 24A, Oct.29

i	Alt.	Time	Tdry	Twet	RH	W	Tpot.	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
1	50	71617	15.3	14.5	91.54	9.7	286.5	4.4	.082	.0006
2	100	71656	15.2	14.4	91.27	9.7	286.6	7.5	.075	.0027
3	150	71728	15.1	14.2	90.45	9.5	286.6	10.1	.058	.0033
4	200	71801	15.0	13.9	88.59	9.3	286.7	12.0	.074	.0046
5	250	71833	14.9	13.7	87.05	9.1	286.7	12.2	.053	.0053
6	300	71905	14.9	13.3	83.49	8.7	286.8	11.2	.047	.0061
7	350	71937	14.9	12.9	79.92	8.4	287.0	10.4	.034	.0067
8	400	72009	14.9	12.6	77.09	8.1	287.2	9.3	.033	.0072
9	450	72041	14.9	12.4	75.42	7.9	287.3	9.2	.035	.0078
10	500	72113	14.8	12.2	74.20	7.7	287.4	8.5	.044	.0086
11	550	72152	14.7	12.0	73.01	7.6	287.4	8.8	.054	.0094
12	600	72224	14.6	11.6	69.82	7.2	287.5	9.5	.048	.0101
13	650	72303	14.5	11.5	69.27	7.1	287.5	8.4	.025	.0106
14	700	72335	14.4	11.4	69.69	7.1	287.5	7.9	.032	.0109
15	750	72415	14.3	11.3	70.14	7.1	287.6	8.0	.044	.0117
16	800	72446	14.1	11.2	70.69	7.1	287.6	7.5	.028	.0120
17	850	72517	14.0	11.1	71.35	7.1	287.6	7.2	.024	.0122
18	900	72548	13.8	11.0	71.32	7.1	287.6	7.3	.029	.0128
19	950	72619	13.7	11.0	71.67	7.1	287.6	7.1	.029	.0132
20	1000	72658	13.6	10.9	72.31	7.1	287.6	7.2	.026	.0136
21	1050	72730	13.4	10.7	72.11	7.0	287.6	6.3	.039	.0141
22	1100	72809	13.3	10.5	70.73	6.8	287.6	6.0	.024	.0145
23	1150	72842	13.4	10.4	69.35	6.7	287.9	5.8	.046	.0151
24	1200	72914	13.3	10.0	65.71	6.4	288.0	6.2	.038	.0157
25	1250	72955	13.5	9.4	58.26	5.7	288.3	8.0	.032	.0164
26	1300	73028	13.9	9.0	52.10	5.3	288.8	11.0	.030	.0168
27	1350	73100	14.3	8.5	44.46	4.6	289.4	13.4	.035	.0173
28	1400	73140	14.4	8.1	40.21	4.2	289.7	14.0	.016	.0176
29	1450	73213	14.8	7.9	36.55	3.9	290.2	13.6	.006	.0177
30	1500	73253	15.0	7.8	34.05	3.7	290.6	12.4	.004	.0178
31	1550	73324	15.1	7.8	33.54	3.7	290.8	12.7	.004	.0177
32	1600	73355	15.1	7.7	33.28	3.7	291.0	14.5	.011	.0179
33	1650	73433	15.2	7.7	32.88	3.6	291.2	15.1	.012	.0180
34	1700	73513	15.4	7.9	32.60	3.7	291.6	16.1	.015	.0183
35	1750	73544	15.5	7.9	32.93	3.7	291.8	15.9	-.003	.0183
36	1800	73632	15.3	7.9	33.75	3.8	291.8	16.4	.007	.0183
37	1850	73704	15.2	7.9	34.35	3.8	291.8	18.1	.020	.0188
38	1900	73728	15.2	8.0	34.89	3.9	292.0	19.4	.019	.0190
39	1950	73800	15.4	8.1	34.72	3.9	292.3	19.5	.010	.0192
40	2000	73839	15.8	8.5	35.64	4.2	292.9	17.7	.012	.0193
41	2050	73910	16.0	8.8	36.99	4.4	293.2	16.2	.015	.0194
42	2100	73918	16.1	9.0	37.68	4.5	293.5	16.3	.013	.0207
43	2150	74309	16.2	9.1	38.35	4.6	293.7	16.9	.011	.0207
44	2200	74320	16.3	9.3	38.95	4.7	294.0	17.6	.008	.0208
45	2250	74328	16.4	9.4	39.56	4.8	294.2	17.7	.009	.0208
46	2300	74336	16.5	9.6	40.38	5.0	294.5	17.1	-.001	.0208
47	2350	74344	16.5	9.6	40.70	5.0	294.6	18.5	.010	.0208
48	2400	74423	16.5	9.7	41.09	5.1	294.8	19.7	.009	.0211
49	2450	74504	16.4	9.7	41.53	5.1	294.8	21.0	.008	.0211
50	2500	74546	16.5	9.8	42.36	5.3	295.1	22.1	.020	.0216
51	2550	74610	16.5	10.0	43.80	5.5	295.2	23.1	.024	.0218
52	2600	74659	16.7	10.8	48.16	6.1	295.6	25.5	-.001	.0219
53	2650	74748	16.8	11.1	50.08	6.4	295.9	24.6	.004	.0220
54	2700	74828	16.9	11.5	52.92	6.8	296.1	25.3	.016	.0222
55	2750	74908	16.9	11.6	54.14	7.0	296.2	26.9	.008	.0223
56	2800	74956	17.0	11.7	53.75	7.0	296.5	25.3	.006	.0225
57	2850	75146	17.2	11.6	52.17	6.9	296.8	24.0	.006	.0225
58	2900	75334	17.1	11.5	51.80	6.8	296.9	22.6	.007	.0227
59	2950	75523	17.1	11.4	51.18	6.7	297.1	23.3	-.001	.0228



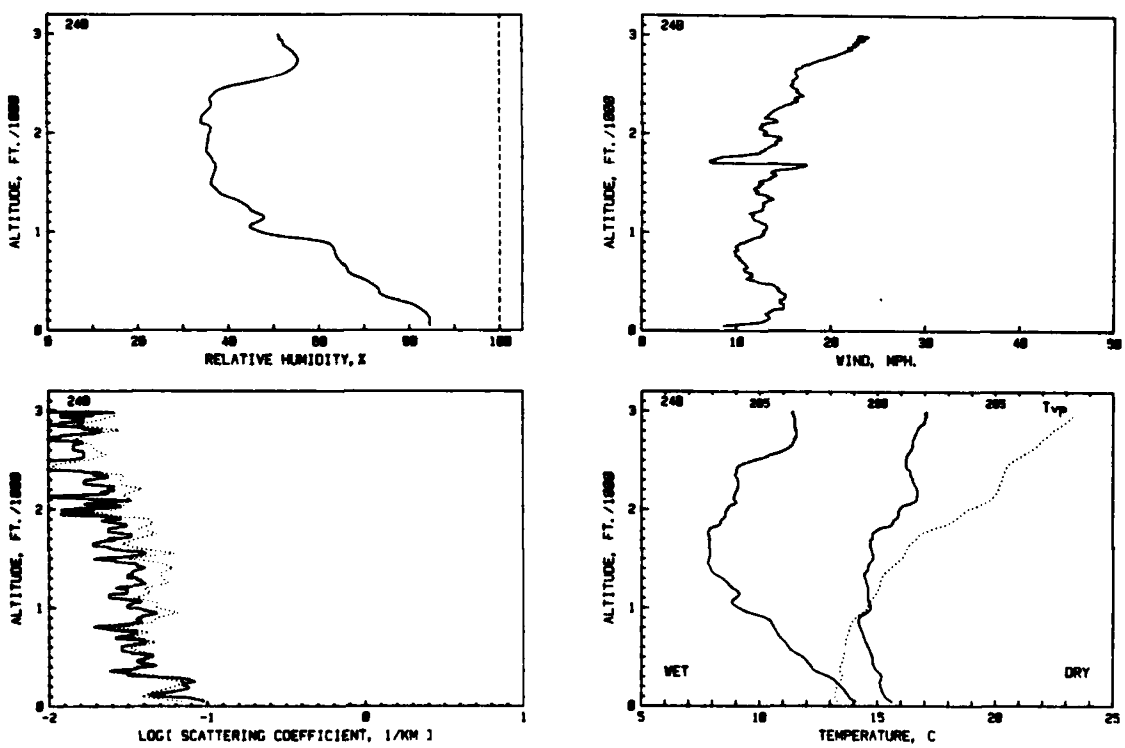






FLIGHT 24B, Oct.27

i	Alt.	Time	Tdry	Twet	RH	W	Tpot,	Wind	bscat.	D
	ft.	h m s	C	C	%	g/Kg	K	mph.	1/Km	
59	2950	75909	17.1	11.4	51.23	6.7	297.1	23.4	.019	.0003
58	2900	80044	17.0	11.5	52.14	6.8	296.8	22.7	.015	.0006
57	2850	80211	16.8	11.5	53.15	6.9	296.5	22.0	.011	.0008
56	2800	80250	16.7	11.5	54.53	7.0	296.2	20.5	.021	.0012
55	2750	80323	16.6	11.5	55.34	7.0	296.0	18.9	.013	.0014
54	2700	80354	16.5	11.5	55.39	7.0	295.7	17.5	.011	.0015
53	2650	80417	16.5	11.3	54.57	6.9	295.6	16.3	.014	.0018
52	2600	80441	16.4	11.0	52.90	6.6	295.3	16.3	.015	.0020
51	2550	80506	16.3	10.4	49.51	6.1	295.0	16.1	.017	.0023
50	2500	80523	16.2	9.7	44.89	5.5	294.8	15.9	.013	.0025
49	2450	80555	16.2	9.2	39.94	4.9	294.6	16.4	.007	.0026
48	2400	80634	16.4	9.0	37.22	4.6	294.6	16.8	.007	.0027
47	2350	80729	16.4	9.0	36.22	4.5	294.5	16.4	.020	.0031
46	2300	80822	16.5	9.1	36.22	4.5	294.5	15.7	.019	.0035
45	2250	80854	16.6	9.1	36.23	4.5	294.4	14.3	.019	.0037
44	2200	80925	16.7	9.0	35.21	4.4	294.4	13.6	.025	.0040
43	2150	81005	16.7	8.9	34.22	4.3	294.2	13.7	.019	.0044
42	2100	81043	16.7	8.9	33.91	4.2	294.1	12.8	.021	.0046
41	2050	81138	16.2	8.8	36.06	4.4	293.6	12.5	.020	.0050
40	2000	81233	15.9	8.6	35.97	4.2	293.0	13.0	.018	.0054
39	1950	81349	15.9	8.6	35.56	4.2	292.8	14.5	.012	.0057
38	1900	81427	15.7	8.4	35.48	4.1	292.6	14.2	.028	.0060
37	1850	81506	15.6	8.3	35.26	4.1	292.3	13.1	.030	.0064
36	1800	81553	15.0	7.9	35.11	3.9	291.6	12.2	.024	.0068
35	1750	81647	14.8	7.8	36.05	3.9	291.1	8.0	.032	.0073
34	1700	81734	14.8	7.9	36.56	4.0	291.0	8.5	.024	.0077
33	1650	81853	14.7	7.9	37.20	4.0	290.7	16.0	.019	.0081
32	1600	81926	14.7	7.9	36.99	4.0	290.5	13.8	.025	.0085
31	1550	81958	14.8	7.9	36.58	3.9	290.5	13.6	.040	.0092
30	1500	82021	14.8	7.9	36.20	3.9	290.3	12.8	.021	.0095
29	1450	82108	14.6	7.8	36.48	3.9	290.1	12.0	.034	.0100
28	1400	82139	14.6	7.9	37.63	4.0	289.8	12.1	.040	.0104
27	1350	82210	14.4	8.1	39.15	4.1	289.6	13.5	.033	.0110
26	1300	82243	14.5	8.4	42.11	4.4	289.4	12.8	.035	.0115
25	1250	82314	14.5	8.7	44.03	4.6	289.3	12.8	.039	.0122
24	1200	82345	14.6	8.9	45.05	4.7	289.2	11.7	.028	.0126
23	1150	82416	14.6	9.1	47.62	5.0	289.1	11.7	.031	.0130
22	1100	82453	14.6	9.0	47.11	4.9	288.9	12.6	.025	.0134
21	1050	82531	14.7	8.8	44.85	4.7	288.8	13.3	.033	.0139
20	1000	82609	14.7	9.1	46.16	4.8	288.8	12.9	.033	.0145
19	950	82641	14.5	9.6	50.20	5.2	288.5	12.2	.047	.0150
18	900	82713	14.2	10.3	59.11	6.0	288.0	10.9	.038	.0156
17	850	82743	14.2	10.5	62.77	6.4	287.8	10.0	.037	.0162
16	800	82821	14.3	10.6	63.46	6.4	287.7	9.9	.021	.0165
15	750	82850	14.4	10.7	63.71	6.5	287.6	10.2	.036	.0170
14	700	82921	14.4	10.9	64.43	6.6	287.6	10.6	.026	.0176
13	650	83001	14.5	11.1	65.55	6.7	287.5	11.2	.041	.0181
12	600	83038	14.6	11.2	66.26	6.8	287.4	11.0	.029	.0186
11	550	83109	14.7	11.5	67.29	7.0	287.4	11.7	.033	.0190
10	500	83147	14.8	11.8	69.95	7.3	287.3	12.2	.042	.0197
9	450	83219	14.8	12.0	71.92	7.5	287.2	14.1	.036	.0202
8	400	83251	14.9	12.2	73.25	7.6	287.1	14.6	.041	.0209
7	350	83321	15.0	12.5	73.65	7.7	287.1	15.2	.028	.0213
6	300	83353	15.2	13.0	76.73	8.1	287.1	14.7	.047	.0218
5	250	83425	15.1	13.3	80.57	8.5	286.9	15.0	.084	.0229
4	200	83458	15.1	13.5	82.55	8.7	286.8	13.8	.076	.0240
3	150	83539	15.2	13.7	83.88	8.9	286.7	13.4	.062	.0254
2	100	83613	15.3	13.8	84.50	9.0	286.7	12.9	.051	.0259
1	50	83647	15.6	14.1	84.42	9.1	286.7	8.8	.093	.0271



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